

THE CALGARY BUILDING BY - LAW

No. 2666

A BY-LAW OF THE CITY OF CALGARY
TO REGULATE THE CONSTRUCTION,
REPAIR, REMOVAL AND INSPECTION
OF BUILDINGS IN THE CITY OF
CALGARY IN THE INTERESTS OF
PUBLIC SAFETY.



Authorized March 20th, 1933

Revised to October 1st, 1945



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A. DAVISON, *Mayor*

J. M. MILLER, *Clerk*

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BUILDING

BY-LAW

REGULATING THE CONSTRUCTION, REPAIR,
REMOVAL AND ERECTION OF BUILDINGS
IN THE CITY OF CALGARY IN THE INTEREST
OF PUBLIC SAFETY

Printed by Alexander & Sons, Limited,
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L. M. MILLER, Esq.

City Engineer, Calgary

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BY-LAW No. 2666.

A By-law of the City of Calgary to regulate the construction, repair, removal and inspection of buildings in the City of Calgary in the interests of public safety. This By-law shall be known and may be referred to and cited as "The Calgary Building By-law."

THE MUNICIPAL COUNCIL OF THE CITY OF CALGARY, IN COUNCIL ASSEMBLED, ENACTS AS FOLLOWS:

CHAPTER 1.

GENERAL PROVISIONS.

- 101.** DUTIES OF BUILDING INSPECTOR.
 - 102.** PERMITS, WHEN REQUIRED.
 - 103.** RESTRICTIONS FOR BUSINESS PREMISES IN RESIDENTIAL DISTRICTS.
 - 104.** APPLICATIONS.
 - 105.** GRANTING OF PERMITS.
 - 106.** CERTIFICATE MAY BE REQUIRED FROM SUPERINTENDENT OF BUILDING CONSTRUCTION.
 - 107.** CONSTRUCTION ON, OVER, OR UNDER PUBLIC STREETS OR LANES.
 - 108.** REFUSAL OF PERMITS.
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 - 115.** OCCUPANCY CONTRARY TO BY-LAW.
 - 116.** ERECTION CONTRARY TO BY-LAW AND PENALTY.
 - 117.** BOARD OF APPEAL.
 - 118.** FEES FOR BUILDING PERMITS.
 - 119.** HEADINGS.
 - 120.** INTERPRETATION.
 - 121.** PENALTIES FOR BREACH OF THIS BY-LAW.
 - 122.** ZONING RESTRICTIONS (See Zoning By-Law)
 - 123.** LETTER BOXES.
 - 124.** NUMBERING HOUSES, ETC.
 - 125.** APPENDICES.
-

101. DUTIES OF BUILDING INSPECTOR.

There shall be an Inspector of Buildings for the City, hereinafter called the Building Inspector, whose duty it shall be to see that the provisions of this By-law are carried out. The Building Inspector shall have the power to vary or modify any of the provisions of this By-law, or any rule or regulation of the Department of Buildings, relating to the construction, alteration or removal of any buildings or structures erected or to be erected within the City of Calgary upon an application to him in writing by the owner or lessee of such building or structure, or his duly authorized agent, wherein there are practical difficulties in carrying out the strict letter of this bylaw, so that the spirit of this By-law shall be observed and public safety secured and substantial justice done, subject, however, to the approval of the Commissioners, but no

such variation or modification shall be granted or allowed unless the particulars of each application and of the decision of the Building Inspector thereon shall be entered upon the records of the Department.

102. PERMITS—WHEN REQUIRED.

(a) A permit shall mean the authority of the City, given through its building department, for an owner or his agent to proceed with work contemplated in connection with building operations at any given location in accordance with plans, specifications and particulars filed with the Building Department therefor.

Permits may be issued by the City to cover various operations, but in no case is a permit deemed to be valid or in force unless the fees in connection therewith have been collected therefor by the City. In the event of work being started before permit has been issued double fees shall be charged. The City shall give a receipt for the fees, which receipt, when accompanied by the Inspector's stamp of approval on the plans, shall be sufficient evidence that the permit has been issued; provided that in the period between the receipt of fees and the examination and approval of plans the Inspector may in his discretion permit excavation and other preparatory operations.

It shall be unlawful for any firm, person or corporation, either as owner, architect, or builder, to commence or proceed with the excavation for the erection, alteration, moving or demolition of any building or other structure within the City of Calgary, unless a permit to do such work has been first obtained from the Department of Building. A permit must also be obtained from the Building Department of the City of Calgary for every alteration as defined in Chapter 2 hereof.

(b) A permit shall be obtained from the Inspector by the owner for the excavation for the erection, alteration, reconstruction or removal of any building or part of any building, or for a change of occupancy of any or part of any building where a different purpose of use is involved in such change. No person shall commence or proceed with such work or effect such change of occupancy until a permit therefor has been first obtained from the Building Inspector.

103. RESTRICTIONS FOR BUSINESS PREMISES IN RESIDENTIAL DISTRICTS.

It shall not be lawful for any person to locate, build, construct or keep on any Street, Avenue or Lane in a district known as a Residential District, any building designed, constructed, altered or used for any business purpose whatever or for any purpose other than residential, unless with the written consent of a majority of the assessed property owners or the duly authorized agents or owners of said property in such block. The word "block" in this instance shall mean the property fronting upon Streets or Avenues in accordance with diagram attached to this By-law and forming part thereof. (See also Sec. 201 and definition of word "block.")

104. APPLICATIONS.

Applications for permits shall comply with the following provisions:

(a) They shall be written on official forms obtained at the Building Inspector's office and signed by the owner.

(b) The correctness of the information supplied in the application shall be verified by a statutory declaration when required by the Building Inspector.

(c) The applicant shall, in connection with such application, submit the following which shall be deemed part of the application:

(1) Drawings which shall be drawn in line in a permanent medium on good quality paper or cloth or prints on good paper by the blue print or other permanent photographic process.

(2) Drawings shall exhibit a reasonable quality of draftsmanship, and shall be accurately drawn to scale not less than one-eighth inch to one foot.

(3) The drawings shall show the layout of each floor, the construction of the exterior and interior walls, floors, ceiling and foundations. All structural members shall be indicated and dimensioned so that the strain in same may be calculated from the loads deduced from the drawings, and the drawings generally shall be of such a complete nature that the stability of the proposed building may be readily calculated by a person skilled in building science.

(4) In reinforced concrete buildings where the general drawings do not show the amount and location of steel, separate plans must be submitted in accordance with Sec. 102 A of the Reinforced Concrete Building Regulations herein incorporated. See Chapter 14.

(5) Details for all framed steel structures shall be submitted, including calculations and stress diagrams where required by the Building Inspector.

(6) Where it is not practicable to show certain structural detail in the drawings, such data may be given by a specification accompanying the drawings, and the drawings and specification combined shall indicate clearly all materials and design.

(7) Drawings in reasonable detail for dwellings and one storey buildings which exhibit no unusual structural difficulties, may at the discretion of the Building Inspector be accepted, but only if they show a complete layout, the nature of the materials to be used and such features as beams, posts and joists dimensioned. Generally such drawings shall comply with the above requirements with the exception of paragraph 2.

(8) Block plan in duplicate, showing the location of the proposed building on the property with respect to other buildings at present located on the property and adjoining properties and if so required a certified survey.

(9) The purpose for which the building is to be used.

(10) The legal description of the property, viz: The lot, block, plan and section number.

(11) Any other information which the Building Inspector may require.

(12) The fees due on the application must be paid before a permit becomes effective.

(13) Before any building is commenced the person or persons desirous of erecting such building or some person on his behalf shall obtain from the City Engineer the proper grade of the adjoining street or avenue and the City Engineer shall upon request in writing therefor and within one week of the date of such request furnish to such person desiring to erect such building or to the person on his behalf making application the said grade of such street provided such grade can be reasonably ascertained.

(d) Whenever the character of the proposed work, such as reinforced concrete, steel or mill construction, requires technical knowledge, the Building Inspector may require that the plans and specifications shall be prepared, signed, and the construction carried out under the supervision of a registered architect or professional engineer.

105. GRANTING OF PERMITS.

(a) When the application conforms with the requirements of this By-law and indicates that the construction of the proposed building will be in conformity with the provisions of this By-law, the Building Inspector shall

stamp the drawings and specifications, deliver one set to the applicant, retain the other and issue the permit. The applicant's set shall at all times be kept on the work and available to the Building Inspector or any of his assistants. Neither the granting of the permit, nor the stamping of the drawings and specifications, nor the inspections made by the Inspector or any of his assistants during the erection of a building shall in any way relieve the owner or the architect of such building from full responsibility for the carrying out of the work in strict accordance with the requirements of this By-law or for the stability of the structure.

(b) Non-Liability: The City of Calgary or its agents shall not be liable for any loss or injury to life or property due to any failure of any construction on any building or structure, either directly or indirectly.

106. CERTIFICATE MAY BE REQUIRED FROM SUPERINTENDENT OF BUILDING CONSTRUCTION.

In all reinforced concrete, steel or mill construction the Building Inspector may require, on a form furnished by him and signed by a competent superintendent, a statement that the work has been executed strictly in conformity with the plans and specifications for such work as filed with the application and stating further the dates on which the concrete was poured and the forms removed.

107. CONSTRUCTION ON, OVER, OR UNDER PUBLIC STREETS OR LANES.

(a) Any person desiring to use temporarily or permanently any portion of any public street or lane for any construction, whether as part of a building to be erected or altered or otherwise, shall apply through the City Engineer to Council for permission therefor. The Building Inspector shall not issue a permit for the erection or alteration of any building the plans of which show construction of any kind on, over, or under the surface of any public street or lane until permission has been granted by the City Council for such erection or alteration. Cornices and belt courses on buildings shall not be deemed construction within the meaning of this section. (See also Chapter 3.)

(b) UTILIZATION OF SPACE UNDER SIDEWALKS.—Any person utilizing the space under the surface of the street adjacent to any building as hereinbefore provided shall construct sufficient stone, brick or concrete walls to retain the surface of the street. No sidewalk lights shall be permitted.

(c) MARQUISES AND CANOPIES.—

(1) Subject to the provisions of this By-law canopies or marquees may be erected over public streets. Upon application to the Building Inspector the applicant shall file plans and specifications showing details of construction of the proposed marquee and/or canopy. No marquee or canopy shall have electric signs attached thereto or contained in or on the face and sides thereof, provided however, that in the case of a theatre a marquee or canopy constructed or erected as aforesaid may have electric signs attached thereto, or contained in or on the face and sides thereof, but neither the face nor the sides of said marquee and/or canopy, nor the said sign, shall be of a greater vertical dimension than five feet. Provided that the foregoing shall not prevent the use of lights for illuminating purposes only. No marquee and/or canopy constructed or erected as aforesaid shall extend closer to the curb line than two feet measured horizontally, but in no case shall it extend more than ten feet from the building line, nor in any case shall the distance from the sidewalk to the lowest point of the marquee and/or canopy be less than nine feet.

(2) No marquee and/or canopy shall have any supports from the ground or highway.

(3) Every marquee and/or canopy shall be securely hung, and anchored to the building to which it forms an approach, exit or ornament.

(4) All glass used in the construction of any marquee and/or canopy shall be guarded and protected by rods and strong wire mesh, above the same, and further all glass shall be wired.

(5) Every marquee and/or canopy shall be designed to carry a live load of sixty pounds per square foot.

(6) Storm water from the roof of any marquee and/or canopy shall not be allowed to drop or flow on to the street, sidewalks or highway, but shall be conducted by pipes properly constructed to the sewer inside the building.

(7) No permit shall be granted for the construction of a marquee and/or canopy without the consent of the City Council. As a condition to any such consent the council shall impose any requirements, including the proper illuminating of said marquee and/or canopy as in its opinion each particular case necessitates.

(8) No marquee and/or canopy shall be constructed in the City of Calgary unless the owner thereof first obtains the permission of the Council of the City of Calgary and as a condition precedent to the construction of the said marquee and/or canopy enters into an agreement with the City of Calgary on such conditions and sureties as to the City Solicitor and the City Engineer may seem necessary for the protection of the City of Calgary against all liability whatsoever that may arise from the construction or maintenance of the said marquee and/or canopy.

(9) No Marquee and/or canopy shall be erected in the City of Calgary unless the owner, upon the request of the City, executes an encumbrance in favor of the City securing the annual rental hereinafter provided for.

(10) Any marquee and/or canopy shall be removed within thirty days of the issuance of an order to that effect by the City Council.

(d) **SIDEWALK CHUTES AND HOISTS.**—All chutes and hoists in the sidewalk shall be constructed as closely as possible to the curb, sufficiently guarded at all times, and shall be permitted only if there is no access by a lane.

(e) **FEEES FOR AREAS, ETC.**—

(1) An annual fee shall be paid to the City of twenty-five cents per square foot of surface area for areas on both sides of streets from 2nd Street East to 4th Street West and both sides of all avenues from 6th Avenue to North side of 9th Avenue, all outside of this area to be charged an annual rental of 10c per sq. foot.

(2) Provided however, that where a sidewalk chute only is constructed the annual fee shall be five dollars (\$5.00).

(3) An annual fee shall be paid to the City of five cents per square foot of horizontal area for each marquee or canopy, such fee however in no case to be less than ten dollars (\$10.00).

108. REFUSAL OF PERMITS.

If any matters mentioned in any application for a permit or if the drawings, specifications, block plan or survey submitted with the application, indicate to the Building Inspector that the work proposed to be done will not comply in all respects with the provisions of this By-law, no permit shall be issued until the application, drawings, specifications and block plan are made to so conform.

109. STABLES, BARNs, ETC.

Permits for livery stables, barns or other buildings to be used for other objectionable businesses shall only be issued with the consent of the City Council or until otherwise provided for by a Zoning By-law. The question

as to whether the proposed business is objectionable shall be in the absolute discretion of the City Council.

CONNECTION OF SEWER AND WATER, ETC.:

Any stable in the first or second class fire limits for more than two horses must be connected to sewer and water, and shall have concrete floor at least four inches thick. Planking of stalls over concrete shall be permitted if proper provisions for cleaning are made. No stable, barn or shed, except a stable, barn or shed used in conjunction with the delivery business of the owner, shall be allowed within thirty feet of any dwelling or within three feet of any lot line.

110. DEVIATION FROM PERMIT.

No person shall erase, alter or modify any drawings or specifications stamped by the Building Inspector in accordance with Section 105 hereof without the consent of the Building Inspector, nor shall any person perform any work of construction, alteration or repair differing from or enlarging the work for which a permit has been issued. If during the progress of the work it is desired to deviate from the application, stamped drawings, or specifications, notice of such intention to deviate shall be made in writing to the Building Inspector whose consent shall first be obtained before such deviation be made, and if the said Building Inspector considers it necessary a new revised application, together with new or revised drawings, specifications and block plan, shall be substituted for approval.

111. EXPIRATION AND RENEWAL OF PERMITS.

Every permit shall automatically lapse if active work is not commenced within a period of three months from the date of its issue and reasonably continued; after such permit has lapsed a new permit shall be procured and fees as hereinafter provided shall be paid therefor before active work can be recommenced.

112. REVOCATION OF PERMITS.

Every permit shall be subject to revocation should the Building Inspector ascertain that the work under such permit is being done in a manner that does not reasonably comply in every respect with the requirements of this By-law. The revocation of a permit shall be in writing and shall be served on the owner or in his absence on any person doing any of the work. After the service of the revocation of a permit all work shall at once cease upon the building or structure.

113. RIGHT OF ENTRY TO BUILDINGS.

The Building Inspector and his assistants shall have the right to visit or enter and inspect from time to time and at all reasonable hours (a) Each building which may be in course of erection, alteration, reconstruction or reparation, or (b) any building which he has reason to believe is in a dangerous or defective condition in regard to its construction, or has become dangerous through damage by fire, age, accident or other cause, or (c) any building which he has reason to believe is being used for a purpose for which it is not suited by reason of its construction.

114. DANGEROUS BUILDINGS.

(a) No building, wall, structure, excavation or opening which by reason of accident, damage by fire or other cause is in danger of falling, or being set on fire, or which endangers the surrounding property or the lives of citizens, shall be maintained, occupied, or allowed to exist within the City, and if, in the opinion of the Building Inspector, any such building, wall, struc-

ture, excavation or opening is so maintained, occupied or allowed to exist, the Building Inspector may give notice to the owner of any such building, wall, structure, excavation or opening or the land on which the same exists requiring him to at once put the same in a safe condition to guard against fire or dangerous accident, or to pull down or demolish or properly fence or guard the same, and in the event of any such owner neglecting or refusing to comply with the said notice according to the terms thereof the Building Inspector may cause any such building, wall, structure, excavation or opening or land to be put in a safe condition to guard against fire or dangerous accident, or to be pulled down or demolished or fenced or guarded, as may by him be deemed expedient or necessary, and the cost of putting any such building, wall, structure or land in a safe condition or pulling down or demolishing or fencing or guarding the same may be recovered by the City by summary process at law, and shall also be a lien upon such building, wall or structure, and the materials thereof and upon the lot or parcel of land upon which the same is or was erected or exists, or upon which the work of pulling down, fencing or guarding has been done.

(b) The notice to be given to any owner as above set forth shall be in writing and may be given to such owner personally or mailed to his last address as shown on the assessment rolls of the City.

115. OCCUPANCY CONTRARY TO BY-LAW.

(a) No building hereafter erected or altered in contravention of this By-law shall be occupied until it has been made to comply with the requirements of this By-law.

(b) No building shall be used for any other than the purpose for which it was erected, as shown on the application for permit, if for such other purpose this By-law requires a stronger or different type of construction.

116. ERECTION CONTRARY TO BY-LAW AND PENALTY.

Any building or erection or such part thereof as may in the opinion of the Building Inspector be constructed, repaired or placed in contravention of any By-law of the City of Calgary shall be pulled down or removed by the owner on notice from the Building Inspector, and on his failure so to do the Building Inspector may have the work of pulling down or removal done and may certify the cost of same to the City Assessor who shall charge same as taxes.

Any person found guilty of deliberately breaking any of the provisions of the City Building By-law shall be required immediately to remove such work as has been constructed contrary to this By-law and replace same properly constructed at his own cost, and in default of carrying out the Building Inspector's instructions to remove and replace same, same shall be subject to summary penalty of not less than \$50.00 per week until such change has been made, and on further evidence of deliberate intention to violate the By-laws his permit shall be cancelled.

117. BOARD OF APPEAL.

Should any dispute arise between the Inspector or owner or agent, recourse may be had to the Commissioners of the City of Calgary and from them to the Council of the City of Calgary whose decision in the matter shall be final.

118. FEES FOR BUILDING PERMITS. (See Chapter 38).

119. HEADINGS.

The headings which appear at the beginning of sections, sub-sections or paragraphs of this By-law shall be deemed to be a part of such section, sub-section or paragraphs respectively.

120. INTERPRETATION.

(a) Where in this By-law such terms as "proper," "adequate," "sufficient," "ample," "suitable," "substantial," "necessary," "dangerous," and the like, or derivatives thereof, are used, they shall be understood to mean proper, adequate, and so forth to the satisfaction of, or in the opinion of the Building Inspector, and such terms as "where practicable," "where required," "as far as possible," shall have a like significance.

(b) Where the height of any building is mentioned, prescribed, limited or otherwise referred to in this By-law of the City of Calgary, the word "Storeys" shall not include a basement storey except as provided in Section 201, Sub-section 8.

121. PENALTIES FOR BREACH OF THIS BY-LAW.

It shall be unlawful for any person, firm or corporation to erect, construct, enlarge, alter, repair, move, remove, demolish, convert, equip, use or occupy or maintain any building and/or structure or any portion of any building and/or structure in the City of Calgary contrary to or in violation of any provision of this By-law or to cause, permit or suffer the same to be done.

Any person, firm or corporation violating any of the provisions of this By-law shall be deemed to be guilty of an infraction hereof and every such person shall be deemed to be guilty of a separate offence for each and every day or portion thereof during which any violation of any of the provisions of this By-law is permitted, continued or permitted and upon conviction of any such violation, such person shall be liable to the penalties prescribed by the Charter of the City of Calgary unless penalties or particular offences are otherwise provided for in this By-law.

The issuance or granting of a permit or approval of plans and/or specifications shall not be deemed or construed to be a permit for or an approval of any violation of any of the provisions of this By-law. No permit presuming to give authority to violate or cancel the provisions of this By-law shall be valid except insofar as the work or use which it authorizes is lawful. The issuance of a permit upon plans and specifications shall not prevent the Building Inspector thereafter requiring the correction of errors in the said plans or specifications or preventing building operations being carried on thereunder when in violation of this By-law or of any other By-law regulations of the City of Calgary.

122. ZONING RESTRICTIONS. (See Zoning By-Law)**123. LETTER BOXES.**

On the outer wall or front entrance door of all dwelling houses, apartment houses, store or office buildings hereafter erected, there shall be installed in a prominent place a suitable aperture or receptacle for the receipt of mail, to the approval of the Post Office Department of the Government.

124. NUMBERING HOUSES, ETC.

The City shall have the right through its Engineering Department to decide the street numbers for houses and other buildings and such numbers so given shall be accepted by those concerned; the City shall further have the right to change any number given without redress or action for damages.

The City shall decide and fix the names or numbers of the various highways within the City and the City Council shall further have the right to change the names or numbers of Streets, Avenues or other highways by passing a by-law for this purpose.

125. APPENDICES.

The appendices attached hereto and lettered "A" and "B" respectively shall form part of this By-law and shall be identified by the signature of the Mayor and City Clerk.

CHAPTER 2.

DEFINITION OF TERMS.**SECTION 201.** Wherever used in this By-law—

(1) "AISLE" shall mean any one of the passageways in a church, hall, theatre or other public building into which the pews or seats open.

(2) "ALTERATION OR RECONSTRUCTION" shall mean the addition or renewal of any part or parts of an existing building by which its fire risk, strength or its alignment in relation to any property line or lines is affected.

(3) "APARTMENT BLOCK" shall mean any building, or portion thereof, which is designed, built, rented, leased, let or hired out to be occupied, or which is occupied, as the house or residence of three or more families living independently of each other and shall include flats and apartments but shall exclude hotels and boarding houses.

(4) "APPROVED" shall mean approved of by the Building Inspector unless another meaning is specifically indicated.

(5) "APRON WALL" shall mean the portion of an enclosing wall between a door or window head in a storey and the door or window sill above it in the next storey.

(6) "AREA" shall mean an opening below the surface of the ground, adjoining but not beneath a building, and used in connection therewith.

(7) "AREA PERMIT" is the certificate and authority signed by the City Engineer for the City of Calgary that the necessary permission of the City Council has been given for the construction of an area utilization of the space or any portion thereof under any sidewalk or lane abutting on a building, and that the necessary details of such construction have been supplied to and approved of by the City Engineer, the conditions of the By-law complied with and that the works may be commenced and proceeded with.

(8) "BASEMENT" shall mean a storey, the floor of which is more than one foot, but less than five feet, below the average level of the adjoining ground. A basement shall not be counted as a storey in calculating the height of any building unless it is designed or used for purposes permitted in a business district or as living quarters for someone in which case the ceiling of such basement shall be not less than 6 feet above the average level of the adjoining grounds, or street grade level, whichever is the higher.

(9) "BEARING WALL" shall mean a wall which supports any load other than its own weight.

(10) "BLOCK" In Section 103 and Section 2001 and Section 4003 the word "block" shall signify the property fronting upon streets or avenues in accordance with the diagrams attached to this By-law and forming part thereof, provided that if in any cases falling within Section 103 and Section 2001 and Section 4003 the property shall be of irregular formation or if for any reason there shall be any special circumstances attending the proposed erection, alteration or construction, then the meaning of the word "block" may be extended or altered by the Council of the City of Calgary upon recom-

mentation from the Commissioners and the Building Inspector of the said City of Calgary.

(11) "BUILDING" shall mean any structure built for the support, shelter or enclosure of persons, animals or goods, chattels, and when separated by division walls, without opening, then each portion of such building so separated shall be deemed a separate building.

(12) "BUILDINGS: EXISTING" shall mean a building already erected or one for which a legal permit has been issued prior to the adoption of this code.

(13) "BUILDING INSPECTOR" shall mean the Chief Building Inspector or any regularly authorized deputy.

(14) "BUILDINGS: HABITABLE" shall mean buildings in which persons may live.

(15) "BUILDINGS: HEIGHT OF" shall mean the vertical distance from the curb level to the highest point of the roof surface if a flat roof; the deck line of a mansard roof; and to the mean height level between the eaves and ridge of a gable, hip, or gambrel roof. When a building is situated on ground above curb level, such height shall be measured from the average elevation of the finished grade of the site along the frontage of a building.

(16) "BUILDINGS: PUBLIC" shall mean a theatre, moving picture theatre, lodge room, concert hall, dance hall, college, hospital, asylum, hotel, schools, churches, or other building having provision for the accommodation of an assemblage of people.

(17) "CELLAR" shall mean a storey the floor of which is more than five feet below the average level of the adjoining ground. A cellar shall not be used for human habitation and shall not be counted as a storey for the purpose of height measurement.

(18) "CEMENT MORTAR" shall mean mortar which is made by mixing one part of Portland Cement and not more than three parts of sand, measured dry, by volume.

(19) "CEMENT: PORTLAND" shall mean the product obtained by finely pulverizing clinker produced by calcining to incipient fusion an intimate and properly proportioned mixture of argillaceous and calcareous materials with no additions subsequent to calcination excepting water and calcined or uncalcined gypsum.

(20) "CITY" shall mean the City of Calgary.

(21) "COMMERCIAL CEMENT MORTAR" shall mean mortar made by mixing at least one part of natural cement (known to the trade as Commercial) and three parts of clean sharp sand measured by volume. (This mortar shall not be considered as cement mortar.)

(22) "CORPORATION" shall mean the "Municipal Corporation of the City of Calgary."

(23) "COUNCIL" shall mean the "Municipal Council of the Corporation of the City of Calgary."

(24) "CONCRETE: REINFORCED" shall mean concrete in which metal is embedded in such a manner that the two materials act together in resisting deformation.

(25) "CONSTRUCTION: FIRE RESISTING" shall mean the type of construction prescribed in Chapter 16.

(26) "CONSTRUCTION: FRAME" shall mean the type of construction in which the external or party walls are constructed wholly or partly of wood, even though such wood construction is veneered with brick or stone, roughcast or stucco, or covered with iron or other incombustible material.

(27) "CONSTRUCTION: ORDINARY" shall mean a type of construction in which the joists are of wood and the columns and beams are of wood, iron or steel with or without fire resisting-coverings, but in which the external and party walls are constructed of brick, stone or other incombustible material.

(This classification will include buildings with steel skeleton frames, but with floors of non-fire-resisting construction.)

(28) "CONSTRUCTION: SKELETON" shall mean a type of construction in which all external and internal loads and stresses are transmitted from the top of the building to the foundation by a skeleton or frame work of metal or reinforced concrete.

(29) "CURTAIN WALL" shall mean that portion of any non-bearing enclosing wall between columns or piers, and which is not supported by beams or girders at each storey.

(30) "CURTAIN WALL CONSTRUCTION" shall mean a type of construction in which all floors and roofs, and the loads superimposed thereon, are carried by columns, piers or pilasters, the walls forming merely an enclosure and carrying no load other than their own weight.

(31) "DOOR: FIRE RESISTING" shall mean an automatically closing door (including lintel, sill and frame when required) constructed entirely of incombustible material or of an approved wooden core entirely covered in an approved manner with metal.

(32) "DRY CLEANING ESTABLISHMENT" shall mean any building, or part thereof, in which gasoline, naphtha, benzine or any other similarly inflammable liquid or any cleansing fluid other than water to an amount exceeding one (1) quart is stored or used to clean, dye or renovate any clothing or articles of wearing apparel, or any fabric of any kind whatsoever, and shall include the process of cleaning until all the said liquid is removed from the aforesaid articles.

(33) "DWELLING OR HOUSE" shall mean a building either detached, semi-detached or forming a unit in a terrace, used solely as a residence and occupied by not more than one family.

(34) "ESTABLISHMENT: DRY CLEANING" shall mean any building, or part thereof, in which gasoline, naphtha, benzine or any other similarly inflammable liquid or any cleansing fluid other than water to an amount exceeding one (1) quart is stored or used to clean, dye, or renovate, any cloth-

ing or articles of wearing apparel, or any fabric of any kind whatsoever, and shall include the process of cleaning until all the said liquid is removed from the aforesaid articles.

(35) "EXTERNAL WALL" shall mean an outside enclosing wall of a building or structure.

(36) "FACTORY" shall mean a building in which merchandise is wholly or partly manufactured or assembled.

(37) "FIRE DIVISION WALL" shall mean a wall of masonry or concrete without openings or with openings protected by fire-resisting doors which sub-divides a building but is not necessarily continuous through all storeys nor extended through the roof.

(38) "FIRE WALL" shall mean a wall of fire-resisting construction which sub-divides a building by extending continuously from the basement floor to and above the roof, except in the case where the roof is of fire-resisting material when such wall may only continue to the roof.

(39) "FIRE RESISTING DOOR" shall mean an automatically closing door (including lintel, sill and frame when required) constructed entirely of incombustible material or of an approved wooden core entirely covered in an approved manner with metal.

(40) "FIRE-RESISTING CONSTRUCTION" shall mean the type of construction prescribed in Chapter 16.

(41) "FIRST STOREY" shall mean the storey above the basement or cellar of such building; or the lowest storey of a building having no basement or cellar.

(42) "FOOTING" shall mean the projecting course or courses of concrete, stone, brick or other material under the base of a foundation, cellar, basement or other wall, or under a pier or column.

(43) "FOUNDATION" of a building shall mean the ground or sub-structure upon which such building or structure rests, the foundation walls not being considered as part of the foundation.

(44) "FOUNDATION WALL" shall mean that part of a wall which is below the floor system of the first storey of a building.

(45) "FRAME CONSTRUCTION" shall mean the type of construction in which the external or party walls are constructed wholly or partly of wood, even though such wood construction is veneered with brick or stone, roughcast or stucco or covered with iron or other incombustible material.

(46) "GARAGE: PRIVATE" shall mean a garage with capacity for housing not more than two self-propelled vehicles.

(47) "GARAGE: PUBLIC" shall mean a garage where self-propelled vehicles are equipped for operation, repaired, kept for hire, or dismantled, or any garage which accommodates three or more self-propelled vehicles.

(48) "GARAGE: STORAGE" shall mean a garage except a private or public garage as herein defined, used exclusively for the storage of self-propelled vehicles where no repair facilities are maintained.

(49) "GASOLINE OR BENZINE" shall mean any product of petroleum or any hydro-carbon liquid that will flash or emit an inflammable vapor below

the temperature of 110 degrees Fahrenheit according to any test made by the City Chemist.

(50) "GLASS, WIRE" shall mean glass not less than $\frac{1}{4}$ in. thick containing wire fabric.

(51) "GRADE" shall mean the established grade of the street at the property line as fixed by the City of Calgary.

(52) "HABITABLE BUILDING" shall mean a building in which persons may live.

(53) "HABITABLE ROOM" shall mean a room for human habitation but shall not be interpreted to include kitchenettes having a floor area of less than sixty-five square feet, or toilet rooms.

(54) "HEIGHT OF BUILDING" shall mean the vertical distance from the curb level to the highest point of the roof surface if a flat roof; the deck line of a mansard roof; and to the mean height level between the eaves and ridge of a gable, hip, or gambrel roof. When a building is situated on-ground above curb level, such height shall be measured from the average elevation of the finished grade of the site along the frontage of a building.

(55) "HIGHWAY" shall mean any street, avenue or lane and its width shall be the distance between the property lines of its opposite sides.

(56) "HOTEL" shall mean any place where the transient public may for a consideration obtain sleeping accommodation with or without meals and whether or not a register of guests is kept.

(57) "HOUSE OR DWELLING" shall mean a building either detached, semi-detached or forming a unit in a terrace used solely as a residence and occupied by not more than one family.

(58) "HOUSE: LODGING" shall mean any house or building or portion thereof, not an apartment house or hotel, used by more than one family or single individuals as a place for sleeping or lodging but not including a dwelling where less than six persons are solodged.

(59) "INCOMBUSTIBLE ROOFINGS." Felt and gravel, slate, iron, tin and tile roofings shall for the purpose of this by-law be considered as incombustible.

(60) "INSPECTOR" shall mean the Chief Building Inspector or any regularly authorized deputy.

(61) "LATH: METAL" shall mean any approved form of expanded metal or woven wire.

(62) "LIME MORTAR" shall mean mortar which is made with not more than three parts of clean sharp sand to one of lime, measured dry, by volume.

(63) "LOADS" (a) Dead load in a building includes the weight of walls, permanent partitions, framing, floors, roof, and all other permanent stationary construction entering into a building.

(b) Live loads include all loads except dead loads.

(64) "LODGING HOUSE" shall mean any house or building or portion thereof, not an apartment house or hotel, used by more than one family or single individuals as a place for sleeping or lodging but not including a dwelling where less than six persons are so lodged.

(65) "MANSARD ROOF" shall mean any roof the lower portion of which has a steeper pitch than the upper; and such lower portion shall have a minimum slope of one and one-half inches ($1\frac{1}{2}$ ") horizontally to twelve inches (12") vertically.

(66) "MASONRY" shall mean stone, concrete block, brick, gypsum, structural hollow tile or other products of burnt clay, which are laid up in mortar.

(67) "MEDICAL OFFICER OF HEALTH" shall mean the Medical Officer of Health of the City of Calgary or any regularly authorized deputy.

(68) "METAL LATH" shall mean any approved form of expanded metal or woven wire.

(69) "MILL CONSTRUCTION" shall mean a type of construction in which the enclosing walls are of masonry or concrete, the floors and roof of solid timber not less than two and three-quarter inches thick if tongued and grooved or splined, or not less than three and three-quarter inches thick if laid on edge, the columns of wood not less than sixty-four square inches in sectional area, in the top storey, and one hundred square inches in storeys below the top storey. The minimum dimension of any column or beam to be 8 inches.

(70) "MOVING PICTURE THEATRE" shall mean a building where moving pictures are shown, but having no stage for dramatic or operatic purposes.

(71) "MORTAR: CEMENT" shall mean mortar which is made by mixing one part of Portland cement and not more than three parts of sand, measured dry, by volume.

(72) "MORTAR: COMMERCIAL CEMENT" shall mean mortar made by mixing at least one part of natural cement (known to the trade as Commercial) and three parts of clean sharp sand measured by volume.

(This mortar shall not be considered as cement mortar.)

(73) "MORTAR: LIME" shall mean mortar which is made with not more than three parts of clean sharp sand to one of lime, measured dry by volume.

(74) "ORDINARY CONSTRUCTION" shall mean a type of construction in which the joists are of wood and the columns and beams are of wood, iron or steel with or without fire-resisting coverings, but in which the external and party walls are constructed of brick, stone or other incombustible material.

(This classification will include buildings with steel skeleton frames, but with floors of non-fire-resisting construction.)

(75) "OWNER" includes every person in possession of any premises or in receipt of the whole or of any part of the rents and profits therefrom, whether on his own account or as agent or trustee for any other person or as a tenant from year to year or for any less term, or tenant at will, and the agent of such person.

(76) "PARTITION WALL" shall mean any interior wall in a building.

(77) "PARTY WALL" shall mean a wall used or designed or adapted to be used in common by two separate buildings.

(78) "PENTHOUSE" shall mean a superstructure erected on the roof and covering not more than 20 per centum of the area of the roof and used for the enclosure of a stair, elevator, machinery or water tank.

(79) "PERMIT: AREA" is the certificate and authority signed by the City Engineer for the City of Calgary that the necessary permission of the City Council has been given for the construction of an area utilization of the space or any portion thereof under any sidewalk or lane abutting on a building, and that the necessary details of such construction have been supplied to and approved of by the City Engineer, the conditions of the by-law complied with and that the works may be commenced and proceeded with.

(80) "PIER CONSTRUCTION" shall mean a type of construction in which certain portions of the walls, commonly known as pilasters or piers, are made of greater transverse thickness than is required in ordinary construction, the weights of all floors and roofs and the loads superimposed thereon being carried at each storey by means of beams or arches, directly to the piers.

(81) "PRIVATE GARAGE" shall mean a building or portion of a building designed or used for the shelter of not more than two automobiles and not exceeding four hundred square feet in floor area.

(82) "PUBLIC GARAGE" shall mean a building or portion of a building designed or used for the purpose of sheltering or repairing automobiles, or any garage which accommodates three or more automobiles.

(83) "PUBLIC BUILDING" shall mean a theatre, moving picture theatre, lodge room, concert hall, dance hall, colleges, hospital, asylum, hotel, schools, churches of over 500 capacity, or other buildings having provision for the accommodation of an assemblage of people.

(84) "REINFORCED CONCRETE" shall mean concrete in which metal is embedded in such a manner that the two materials act together in resisting deformation.

(85) "RECONSTRUCTION OR ALTERATIONS" shall mean the renewal of any part or parts of any existing building by which its fire risk or strength is affected.

(86) "REPAIRS" shall mean the renewal of any part or parts of an existing building by which its fire risk or strength is not affected. No permit is required for a repair.

(87) "ROOF: MANSARD" shall mean any roof the lower portion of which has a steeper pitch than the upper; and such lower portion shall have a minimum slope of one and one-half inches ($1\frac{1}{2}$ ") horizontally to twelve inches (12") vertically.

(88) "ROOFING: INCOMBUSTIBLE." Felt and gravel, slate, iron, tin and tile roofings, and any other type of roofing which in the opinion of the Building Inspector is incombustible shall, for the purpose of this By-law, be considered as incombustible.

(89) "ROOMS: HABITABLE" shall mean a room for human habitation but shall not be interpreted to include kitchenettes having a floor area of less than sixty-five square feet, or toilet rooms.

(90) "STABLE" shall mean any building used for the accommodation of horses or cattle of any kind.

(90-A) "PRIVATE STABLE" shall mean any stable used for the occupation of the horses or cattle of a private person not engaged in the business of livery-keeper or where the said stable is used in conjunction with the delivery business of the owner.

(91) "STOREY" shall mean that portion of a building above the basement included between the surface of any floor and the surface of the floor next above it, or if there be no floor above it then the space between such floor and the ceiling next above it;

(92) "STOREY: FIRST" shall mean the storey above the basement or cellar of such building; or the lowest storey of a building having no basement or cellar.

(93) "STOREY: SECOND" shall mean the storey of a building immediately above the first storey, "third storey" the one immediately above the second and so on in regular succession for all higher storeys.

(94) "STOREYS" above the first storey shall be numbered consecutively upwards.

(95) "SKELETON CONSTRUCTION" shall mean a type of construction in which all external and internal loads and stresses are transmitted from the top of the building to the foundation by a skeleton or framework of metal or reinforced concrete.

(96) "SMOKE-PROOF TOWER" shall mean a stair enclosed by walls of fire-resisting materials, so connected to the building it serves that no flames or smoke can issue from the building into this enclosure.

(97) "SPANDREL WALL" shall mean that portion of an enclosing wall constructed between columns or piers and supported by beams or girders at each storey in a building of either skeleton or pier construction.

(98) "STORAGE GARAGE" shall mean a garage, except a private or public garage as herein defined, used exclusively for the storage of self-propelled vehicles where no repair facilities are maintained.

(99) "STORE OR SHOP" means a building or part of a building used for the sale of goods by retail, or for the performance of services such as barbering, watch repairing and any other service usually rendered in a building commonly known as a "Shop."

(100) "STREET" shall mean any street, avenue or lane and its width shall be the distance between the property lines of its opposite sides.

(101) "STREET PERMIT" shall mean the certificate and authorization signed by the Building Inspector of the City of Calgary permitting any owner, contractor, builder or person to use the sidewalk and street or lane or certain portions thereof under the conditions of this By-law or named therein during the erection of a building or the construction of works about a building.

(102) "THEATRE" shall mean a building having a stage with fixed or movable scenery, and used for dramatic, operatic or other similar purposes.

(103) "THICKNESS OF WALL" shall mean the minimum thickness of any wall. Brick walls shall be dimensioned in multiples of 4 inches, this being deemed the thickness of one half brick.

(Brick veneer shall mean a wall-facing not less than four inches in thickness.)

(104) "THEATRE: MOVING PICTURE" shall mean a building where moving pictures are shown, but having no stage for dramatic or operatic purposes.

(105) "TOWER: SMOKE PROOF" shall mean a stair enclosed by walls of fire-resisting materials so connected to the building it serves that no flames or smoke can issue from the building into this enclosure.

(106) "VENEER" shall mean an outer facing of brick, stone, concrete, tile or metal placed on the wall for decoration or protection.

(107) "WALL: APRON" shall mean the portion of an enclosing wall between a door or window head in a storey and the door or window sill above it in the next storey.

(108) "WALL: BEARING" shall mean a wall which supports any load in addition to its own weight.

(109) "WALL: CURTAIN" shall mean that portion of any non-bearing enclosing wall between columns or piers and which is not supported by beams or girders at each storey.

(110) "WALL: EXTERNAL" shall mean an outside enclosing wall of a building or structure.

(111) "WALL: FIRE" shall mean a wall of fire-resisting construction which sub-divides a building by extending continuously from the basement floor to and above the roof, except in the case where the roof is of fire-resisting material when such wall may only continue to the roof.

(112) "WALL: FIRE DIVISION" shall mean a wall of masonry or concrete without openings or with openings protected by fire-resisting doors, which sub-divides a building but is not necessarily continuous through all storeys nor extended through the roof.

(113) "WALL: FOUNDATION" shall mean that part of a wall which is below the floor system of the first storey of a building.

(114) "WALL: PARTITION" shall mean any interior walls in a building.

(115) "WALLS: PARTY" shall mean walls used or designed or adapted to be used in common by two separate buildings.

(116) "WALL: SPANDREL" shall mean that portion of an enclosing wall constructed between columns or piers and supported by beams or girders at each storey, in a building of either skeleton or pier construction.

(117) "WALLS: THICKNESS OF" shall mean the minimum thickness of any wall. Brick walls shall be dimensioned in multiples of 4 inches, this being deemed the thickness of one half brick. Brick veneer shall mean a wall-facing not less than four inches in thickness.

(118) "WAREHOUSE" shall mean a building or part of a building used for the storage or wholesale merchandising of goods.

(119) "WIRE GLASS" shall mean glass not less than one-quarter inch thick containing wire fabric.

202. DIMENSION MATERIAL.

In this By-law whenever sizes of wood members are mentioned they shall be construed as meaning commercial sizes.

CHAPTER 3.

PERMISSION OF CITY COUNCIL REQUIRED.

- 301.** APPLICATIONS TO HAVE APPROVAL OF CITY COUNCIL.
- 302.** AGREEMENT REQUIRED FOR MARQUISES AND CANOPIES.
- 303.** MARQUISES PROHIBITED IN LANES, ETC.
- 304.** FIRE ESCAPES IN STREETS.

301. APPLICATIONS TO HAVE APPROVAL OF CITY COUNCIL.

All applications for permits for construction or utilization of space on, over, or under public streets or lanes, or for the establishment of any of the following businesses, or for the erection of any building or conversion of any existing building for the following purposes or businesses shall have the approval of the City Council before permits are issued:

- (a) Areas or other utilization of space on, over or under public streets or lanes not hereinafter specifically mentioned.
- (b) Marquises or fire escapes over streets.
- (c) Manufactories or places for the storage of inflammable liquids.
- (d) Gas holders, gas retorts, gas scrubbers, gas purifiers, gas works, or curb pumps.
- (e) Tents to be used for business purposes, private residences or public assembly.
- (f) Foundries or brickyards.
- (g) Lumber yards, wood yards or planing mills.
- (h) Tanneries, fellmongeries, abattoirs, soap factories or other offensive trades.
- (i) No cotton or cloth sign banners or announcements shall be strung or placed across any street within the City along which trolley or high tension wires are placed; nor shall any such sign or banner be strung across any other street without a permit in writing being first obtained from the Inspector, approved by the City Commissioners and the consent of the owners of the building affected.
- (j) Or any other purposes having special fire risks, or which might be injurious to health, or might constitute a nuisance. Provided that the City Commissioners may at their discretion issue permits for temporary occupation of Public streets or lanes and for the temporary erection of tents.

302. AGREEMENT REQUIRED FOR MARQUISES AND CANOPIES

No permit shall be issued for a marquee or canopy, nor shall any such be erected on any building so as to extend over a street until an agreement has been entered into by the owner of the building agreeing to indemnify the City and a bond satisfactory to the City Council is provided.

303. MARQUISES PROHIBITED IN LANES, ETC.

Marquises are prohibited over any lane or street less than thirty-three feet in width.

Fire escapes in streets are prohibited where lanes are available for the construction of the same.

For construction of marquises over streets or lanes see Chapter 1.

For construction of public garages see Chapter 21.

For regulations dealing with the manufacture and storage of inflammable liquids see Chapter 34.

Lumber and woodyards and planing mills are prohibited in First Class Fire Limits. See Chapter 35.

Wholesale Storage of Class "1" inflammable liquids prohibited in First Class Fire Limits. See section 3408 (b).

CHAPTER 4.

SPECIAL REGULATIONS DURING CONSTRUCTION

- 401.** USE OF STREET, SIDEWALK AND BOULEVARD.
 - 402.** BARRICADES.
 - 403.** SCAFFOLDING.
 - 404.** STORAGE OF MATERIAL.
 - 405.** ADVERTISING.
 - 406.** STRENGTH OF ERECTING STRUCTURES.
 - 407.** FLOORING.
 - 418.** PERMISSIBLE FLOOR LOADING.
- For Excavations and Shoring see Chapter 6.

401. USE OF STREET, SIDEWALK AND BOULEVARD.

Any person desiring to use a portion of any street, sidewalk or boulevard shall before doing so obtain a special permit therefor from the City Engineer, the extent of the occupation or construction being designated in such permit. Soil, gravel or manure or other material which may be placed on any Street, Sidewalk or Boulevard by any person must have, a red light placed and maintained thereon by such person for the protection of the public, and such soil, gravel or manure must be removed as soon as practicable or immediately upon notice from the City Engineer.

402. BARRICADES.

When a permit is granted for the use of a portion of the sidewalk or foot-way fronting or abutting a building site, during the process of building operations, suitable precautions shall be taken for the protection of the public. Such precautions shall vary with the extent and nature of the building operations being performed, but shall not be less than the provisions in the following schedule:

(a) When an excavation is being made, or a building not exceeding 25 feet in height is being built, demolished or altered, the portion of the sidewalk granted in the permit, shall be fenced off from the remaining public portion with a substantial close boarded fence six feet in height. This fence to be securely braced and boarded on the public side with clean dressed boarding. In addition a substantial handrail shall be erected at the line of roadway or curb, the same being securely braced to the fence with horizontal braces giving at least eight feet headroom in the public passageway. The length of handrail to be equal to the length of the fence.

(b) Where the operation being carried on is the erection, alteration or demolition of a building exceeding 25 feet in height but not exceeding 60 feet, the fence and handrail shall be provided as in sub-section "a", and in addition to whole area over the public passageway shall be roofed in with two inch planking close butted and nailed. Planking to have sufficient fall for drainage. Along the outer edge of plank deck or roof there shall be constructed a strong curb or guard at least 12 inches high.

(c) Where the operation being carried on is the erection, alteration or demolition of a building over 60 feet in height, the provisions in sub-section "b" shall apply but in addition, the plank deck or roof over the public passageway shall be formed of two thicknesses of two inch plank, with the joints made to break bond.

(d) Where the plank deck or roofs mentioned in sub-sections "b" and "c" are used for the storage of materials or the erection of an office, the substructure supporting same shall be designed to the satisfaction of the City Engineer, to suit the superimposed loads and usage intended.

(e) Where barricades referred to in all of the foregoing sub-sections are erected within the First Class Fire Limits, all of the surfaces exposed to the public shall be neatly painted with oil paint.

(f) Every application for a permit, made under the provisions of this Section, shall contain an agreement to save the City and its officials harmless from all costs and damages which may accrue from the use or occupancy of the sidewalk, street or sub-sidewalk space.

(g) All such passageways 25 feet in length or over shall be adequately lighted with Electric Light.

403. SCAFFOLDING.

Scaffolding shall be of adequate construction to ensure safety to the public using the streets or lanes.

The following, being Sections 166 to 177 inclusive of regulation No. 9 of the regulations issued by the Workmen's Compensation Board (effective September 1st, 1928) in accordance with the provisions of the Workmen's Compensation Act (Accident Fund) of the Province of Alberta, is inserted at this point in the Building By-law of the City of Calgary for the purposes of guidance only and does not form part of this By-law.

(166) IN THE ERECTION, ALTERATION, REPAIR, IMPROVEMENT OR DEMOLITION OF ANY BUILDING, NO SCAFFOLDING, HOISTS, STAYS, LADDERS, FLOORING OR OTHER MECHANICAL AND TEMPORARY CONTRIVANCES SHALL BE USED WHICH ARE UNSAFE, UNSUITABLE OR IMPROPER, OR WHICH ARE NOT SO CONSTRUCTED, PROTECTED, PLACED AND OPERATED AS TO AFFORD REASONABLE SAFETY FROM ACCIDENT TO PERSONS EMPLOYED OR ENGAGED UPON THE BUILDING OR EXCAVATION.

(167) The floors of all scaffolds suspended from overhead, or standing scaffolds less than ten feet in height shall be at least two and one-half feet wide, and the floors of all standing scaffolds ten feet or more in height shall be at least four feet wide. All such scaffolds shall have a railing or guard not less than three feet nor more than four feet from the floor on the outside of the scaffold for the protection of persons working thereon.

(168) Where a scaffold or staging is "swung" or suspended from an overhead support, all hooks, ropes or cables or other fastenings used are to be of sufficient strength, and the scaffold shall be so secured as to prevent its swaying to and fro.

(169) Roof hooks for the suspension of scaffolds shall not be hooked to a parapet wall or fire-wall, where the suspending rope or cable passes over a cornice, nor shall scaffolds be suspended from sheet metal or wooden cornices.

(170) Whenever workmen are required to crawl out on "thrust-outs" and such other places where no other protection is afforded them, life lines and life belts of sufficient strength shall be provided for the workmen.

(171) Scaffolds shall not be used by workmen where their main support is a strut or brace running from the inner angle of the bracket to the ground. The drop ledger scaffold shall not be used for carrying material when workmen are employed thereon. When the drop ledger scaffold is used, it shall be constructed as follows: The suspension pieces shall be fastened at top between two cantilever beams, spiked together, bottom strut to be fastened to suspending pieces not more than four feet from the cantilever beam, and to have a cleat securely fastened underneath. All pieces to project one foot beyond points of fastening, except the wall side of bottom struts. Platform

planks shall not be less than two inch by ten inch material, free from defective knots and shakes. Cantilever timbers shall be not more than eight feet apart and the inner platform plank not more than six inches from the wall. Cantilever beams shall be counter-balanced inside the building, either by compression struts, ties or sufficient counter-weights. All pieces used in scaffolding shall be to two inches by six inches or larger dimension timber, and securely spiked at points of fastenings.

(172) Where poles are used in scaffolding the poles shall be securely lashed at every point of contact and where square timber is used in scaffolding the same shall be securely spiked or bolted at every point of contact.

(173) Where material is being constructed or dismantled, the employee is required to have the area on each of the floors below where such work is being done enclosed or roped off, so as to prevent accidents from falling objects. Dismantled material is to have all nails removed at once or piled so as to prevent accidents from protruding nails.

(174) Where hoists are used for raising materials for use in buildings the shafts or openings shall be protected at each floor by a barrier not less than three feet nor more than four feet from the level of the floor, and the barrier shall be placed not less than two feet from the edge of the shaft or opening in which the hoist is operated; provided that upon the level or floor in actual use by such hoist such barrier shall not be placed across the opening used for entrance or exits to or from such hoists. Where material hoists are within four feet of work under construction, the material hoistways shall be protected on sides next construction work by lattice with openings not more than six inches wide. A sufficient area underneath all material hoists shall be enclosed or roped off on each floor where workmen shall not be required to enter during hoisting operations. No lumber or timber shall be hoisted in a single sling.

(175) All ladders shall extend at least four feet above any scaffold, staging, or floor.

(176) Where the plans and specifications require the floors to be arched between the beams thereof, or where the floors or filling in between the floors are of fireproof material the flooring or filling in shall be completed as the building or excavation progresses to not less than within three storeys below that on which the iron work is being erected.

(a) Where the plans and specifications do not require filling in between the beams of floors with fireproof material or brick work, the contractor for the carpenter work, in the course of construction, shall lay the under flooring of the building on each storey as the building or excavation progresses to not less than within two storeys below the one to which the building has been erected.

(b) Where double floors are not to be used, such contractor shall keep planked over, with planks properly secured, the floor two storeys below where the work is being performed.

(c) If the floor beams are of iron or steel, the contractor for the iron or steel work of a building or excavation in course of construction, or the owner of such building or excavation, shall thoroughly plank over the entire tier or iron or steel beams on which the structural iron or steel work is being erected, except such spaces as may be reasonably required for the proper construction of such iron or steel work and for the raising or lowering of materials to be used in the construction of such building and such spaces as may be designated by the plans and specifications for stairways and elevator shafts.

(177) In the case of what are known as skeleton steel frame buildings, it shall not be necessary to comply with the requirement of Section 176.

(a) As soon as the steel frame of a building is erected to the first column splice above the first floor level, a flooring of two-inch planking shall be

laid over floor beams on the floor immediately below the first column splice, making a temporary floor over that part of the area of the building or excavation inside columns at that level, except in places where it is necessary to have openings for the passage of material for building above that point. When erection has reached a point level with the next column splice, the planking used as a temporary floor at first column splice shall be removed and placed as before at second splice, and so on to the top of the building.

(b) A double flooring of two-inch planking shall be laid down immediately under any derrick for a sufficient space about the derrick to protect workmen of the floors below the portion of the floor upon which the derrick is working and to hold with safety the materials hoisted by the derrick.

(c) Riveters, staging shall be so constructed as to secure the reasonable safety of the riveters, and a temporary floor must be provided on the girders and floor beams immediately below the portion of the floor upon which the riveters are working, sufficient for the protection of workmen engaged below that floor.

(d) The steel work may be carried on in advance of the construction of permanent floors.

404. STORAGE OF MATERIAL.

All temporary sidewalks and footways shall be kept unobstructed by and clear of all building or other material.

405. ADVERTISING.

No notice or advertising device other than that of the owner, architect, engineer, contractor or contractors, or occupant or occupants of the premises shall be placed upon any covered way, fence or barricade, and then only in such form and style as may be approved by the City Engineer.

406. STRENGTH OF ERECTING STRUCTURES.

All flooring, scaffolding, staging, derricks, elevators, guys, cables, hoists, stays, ladders, or temporary supports of any kind, used during the erection, alteration, wrecking, remodelling or repairing of any building, shall be of sufficient strength to carry safely the loads to be supported thereon.

407. FLOOR OPENING AND TEMPORARY STAIRS

(1) In the erection or construction of any building over two storeys in height, there shall be constructed, and maintained above the ground floor, temporary stairways having treads not less than eight (8) inches in width and having a rise not exceeding ten (10) inches in height; and every such stairway shall be substantially constructed, and shall have hand-rails securely attached to any side which is not against any wall of the building.

(2) In the construction of any building, all openings in floors used or maintained for the elevation of building materials or for any other purpose shall be enclosed by a securely attached railing or fence of not less than three (3) feet in height.

408. PERMISSIBLE FLOOR LOADING.

At no time during the progress of work shall any portion of a building be subjected to a greater load of constructional or other class of material, per square foot of floor space, than it is designed to sustain in the completed building.

CHAPTER 5.

HEIGHT OF BUILDINGS.

- 501.** ALL BUILDINGS.
- 502.** MILL CONSTRUCTION.
- 503.** ORDINARY CONSTRUCTION.
- 504.** FRAME CONSTRUCTION.
- 505.** FACTORY BUILDINGS.
- 506.** PENT HOUSES, ETC.

For construction of Pent Houses see Sec. 1706.

For heights of Apartment Blocks see Sec. 2004.

For Rear Yards see Sec. 3202.

501. ALL BUILDINGS.

(a) The total floor area including thickness of walls in square feet of any building on any site having frontage on an avenue shall not exceed nine times the area obtained by multiplying the frontage of the site on the avenue in lineal feet by 130. Where there are two corner sites adjoining, one fronting on an avenue and the other on a North and South street and a lane they shall be considered as one site in computing the total permissible floor area and the floor area thus determined shall be apportioned to each site in the proportion which its frontage on the North and South street bears to the combined North and South street frontage of the two sites. The height of any building fronting on an avenue, not being a corner site, shall not exceed 75 feet at the street line, but above this height the total permissible floor area may be obtained by setting back one foot for every three feet increase in height. Any building on a corner site or that portion of it which is on a corner site shall not exceed 130 feet at the street line, but above this height the total permissible floor area may be obtained by setting back one foot for every three feet increase in height. The total permissible floor area may be also obtained by the erection of towers of occupancy provided that the front horizontal dimension of a tower shall not exceed sixty per cent of the site frontage. The plan area of the base of the tower shall not exceed thirty-three per centum of the plan area of the site and each tower shall be removed at least twenty feet from all lot lines. Notwithstanding the above, the height of industrial buildings shall be the subject of special consideration, depending upon their type and location, and may be decided by the City Commissioners and City Engineer.

502. MILL CONSTRUCTION.

No building of mill construction shall hereafter be erected or altered to exceed five storeys in height.

503. ORDINARY CONSTRUCTION.

No building of ordinary construction shall hereafter be erected or altered to exceed two storeys in height.

504. FRAME CONSTRUCTION.

No building of frame construction shall hereafter be erected or altered to exceed two storeys in height.

HEIGHT OF BUILDINGS

(b) Provided however, that where a manufacturing process customarily requires a tower or portion of a building to be erected to a height greater than even stories permission may be granted for such required increase.

Nothing contained in this Chapter shall prohibit the erection above the roof of tanks or pent houses over stairway or elevator shafts provided the combined area of such structures does not exceed twenty per cent of the roof area and that no pent house shall exceed one storey in height.

CHAPTER 6.

EXCAVATIONS AND SHORING.**601. SAFEGUARDING EXCAVATIONS.****602. EXCAVATIONS.****603. PENALTY FOR FAILURE TO PROTECT.**

For special regulations during construction see Chapter 4.

601. SAFEGUARDING EXCAVATIONS.

All excavations for or in connection with buildings shall be properly guarded and prevented from becoming dangerous to life or limb by the party making or causing the same to be made.

602. EXCAVATIONS.

Whenever an excavation is carried below the street grade the party making the same or causing the same to be made shall, at his own expense, protect from any injury any wall, sidewalk, or roadway liable to be affected by such excavation, and shall sustain, protect and underpin the same so that they will remain in the same condition as before the excavation was commenced. All mortar used in underpinning shall be cement mortar.

When a greater depth than 9 feet is excavated below the level of the sidewalk or roadway, the party making such excavation shall be required to have the excavation below the said depth sheet-piled on the street and lane side to the satisfaction of the Building Inspector.

603. PENALTY FOR FAILURE TO PROTECT.

If the person whose duty it is to properly guard and protect any excavation, or to protect any wall, sidewalk or roadway from injury, in connection with building or other operations in or upon any land shall neglect or refuse to do so after having had twenty-four hours' notice so to do from the Building Inspector, then the said Building Inspector may enter upon the premises and furnish such support and protection as may in his judgment be required, the expense incurred in connection therewith shall be collectable at any time after the expiration of thirty days from the time of the carrying out of the work, from the owner or agent of the property.

CHAPTER 7.

FOUNDATIONS, FOOTINGS AND SUBSTRUCTURES

701. TIMBERS TO BE PERMANENTLY SATURATED.
702. WOODEN PILES.
703. CONCRETE PILES SUSTAINING VALUES.
704. TEST OR INITIAL PILES.
705. SOIL LOADINGS.
706. GRILLAGES.
707. FOOTINGS.
708. COMPOSITION OF CONCRETE FOR FOOTINGS.
709. CELLAR WALLS, FLOORS.
710. SEWER AND WATER CONNECTIONS.

For excavations and shoring see Chapter 6.

For special regulations during construction see Chapter 4.

For material in foundation walls see Section 707.

For thickness of foundation walls see Section 903.

For live and dead loads see Chapter 18.

For reinforced concrete see Chapter 14.

For footings in dwellings see Section 1903.

TIMBERS TO BE PERMANENTLY SATURATED.

No wooden pile or other timber shall be used in any foundation at a higher level than that which will ensure permanent saturation.

WOODEN PILES.

(a) Wooden piles used to support the foundation of a building shall be suitable timber, not less than fifteen (15) inches in diameter at the butt, and not less than nine (9) inches in diameter at the top. All piles shall be driven to a firm bearing, and shall be cut below permanent water-line. Where caps are used, the piles shall be cut off to allow the capping to be below permanent water line.

(b) When concrete capping is used it shall be suitably reinforced and extend at least six (6) inches below the top of, and outside of piles.

(c) The centre of gravity of close piling shall coincide as nearly as possible with the centre of gravity of the load it sustains.

(d) The safe load of piles shall not exceed the value given in the following formula for piles driven by drop-hammer or steam hammer:

$$S = \frac{2 wh}{p \times 10}$$

Where:

S equals load in tons.

w equals the weight of the hammer in tons.

h equals the fall or stroke of the hammer in feet.

p equals the average penetration in inches of the last five blows.

(e) No single pile shall be loaded to more than twenty-five (25) tons.

CONCRETE PILES SUSTAINING VALUES.

(a) When required by the Building Inspector, actual tests of the sustaining value of concrete piles shall be made by him at the owner's expense.

(b) The load which it is proposed to impose in service shall first be applied and allowed to remain forty-eight hours. It shall then be increased fifty per cent. and be kept undisturbed for four additional days. The proposed load shall be considered suitable if no settlement exceeding one-eighth of an inch occurs during the remaining four days.

704. TEST OR INITIAL PILES.

The Building Inspector shall be notified of the time when test or initial piles will be driven, so that he may be present in person or have a representative on the ground.

705. SOIL LOADINGS.

(a) The permissible load per square foot to which the different kinds of natural soil may be subjected, shall be as follows, and the width of footings shall be at least sufficient to meet these requirements.

Light sandy soil or sandy clay in situations which are dry through natural elevation and drainage-----

Hard dry clay in elevated situations having good natural drainage, and where the excavation is kept clear of water during construction-----

Sandy gravel in wet or dry locations, and where not underlain with clay or sand seams-----

Coarse gravel in wet or dry locations, slightly cemented and not underlain with sand or clay seams-----

Strongly cemented gravel and boulders not underlain with sand or clay, in wet or dry locations-----

All other conditions shall be taken as coming under the provisions of Clause (b) of this Section.

(b) Where a doubt arises as to the sustaining power of the soil, the Building Inspector may order borings to be made or direct that the sustaining power of the soil be tested. Where a test is proposed, a test pit, with vertical sides shall be excavated to the depth of the proposed footing course, and the test load shall be applied over an area equal to at least two square feet. The load which it is proposed to impose in service shall be first applied and allowed to remain forty-eight hours. It shall then be increased fifty per cent. and be kept undisturbed for four additional days. The sustaining power of the soil shall be considered suitable if no settlement exceeding one-quarter of an inch occurs during the first forty-eight hours, and, if no additional settlement exceeding one-quarter of an inch occurs during the remaining four days. It is provided however, in the case of filled-in ground, that in order to obtain service loading equal to that upon natural soil such test loads shall be increased fifty per cent., and that when the nature of the fill is in doubt, test pits shall be sunk sufficiently deep to disclose the nature of the fill. A copy of the report upon every such test shall be filed with the Building Inspector but shall first be certified by the Engineer or other person conducting the test. The cost of all such tests shall be borne by the owner.

706. GRILLAGES.

Where steel beams or rails are used as part of a foundation or footing they shall be bolted together with pipe or other approved separators, and laid upon a bed of concrete. The thickness of such concrete shall be proportioned to the flange width and spacing of the beams and rails, but in no case shall it be less than six inches. The beams or rails shall be bedded perfectly level in a thin coat of cement mortar, and the spaces between them completely filled with concrete, the concrete to be continually agitated while being poured.

Every precaution taken to keep it free from cavities. The sides and ends of the beams or rails shall also be covered with concrete to a thickness of at least six inches and upper surface three inches. All concrete in foundations of footings in which steel beams or rails are embedded, shall be mixed in proportion of 1:2:4, and in conformity with Section 1402.

07. FOOTINGS.

(a) Foundation walls, pilasters, piers and columns shall rest upon footings of concrete. The bottom surface of external footings shall be laid to a depth below the street grade at any point as required in this By-law. All footings shall be proportioned to sustain within the limits of safety permitted by this By-law all loads superimposed thereon, which shall include all dead, live and wind loads.

(b) The effective portions of off-sets of non-reinforced concrete footings shall be figured as not more than two-thirds of the depth of the course.

(c) Footings for every new building hereafter erected in the first-class limits shall be of concrete or other material satisfactory to the Building Inspector and shall be laid upon solid ground or level surface of solid rock or upon piles or concrete and shall be laid not less than seven feet below the street grade.

08. COMPOSITION OF CONCRETE FOR FOOTINGS.

Concrete used in any ordinary foundation footing shall have a compressive strength of at least 2,000 pounds per square inch at 28 days.

09. CELLAR WALLS, FLOORS.

Where cellars or basements are constructed under buildings, the walls of such cellars or basements shall be constructed of hard burned clay brick, or concrete, and if such cellars or basements have floors they shall be of concrete in contact with the ground. Such concrete floors, if constructed, shall be graded to floor drain if drain is constructed.

In the case of frame buildings, however, foundations may be constructed of concrete, hard burned brick or stone. Underpinning shall be constructed of hard material such as clinker brick or concrete.

10. SEWER AND WATER CONNECTIONS.

Any building hereafter erected upon any property which fronts or abuts upon any street or lane in which both sewer and water mains exist shall be connected with sewer and water mains, and in the case of dwellings shall not be occupied until such connections have been made and water service turned on.

CHAPTER 8.

FRAME WALL CONSTRUCTION.

- 801.** STUDS IN BEARING PARTITIONS.
 - 802.** DOUBLE STUDS, WHERE REQUIRED.
 - 803.** FRAME WALL COVERINGS.
 - 804.** BEAM FILLINGS.
 - 805.** FIRE STOPPING.
 - 806.** DISTANCE OF FRAME WALLS FROM LOT LINES.
- For definitions of terms see Chapter 2.
For timber construction see Chapter 11.
For fire limits see Chapter 35.

801. STUDS IN BEARING PARTITIONS.

Frame walls other than those which are internal and non-bearing, shall be constructed having a framework of scantling which shall be adequately braced. Scantlings shall be at least two inches by four inches and except in buildings one storey in height spaced not farther apart than sixteen inches on centres. In buildings of one storey however, and in buildings which are boarded inside and outside, scantlings may be 24 inches on centres, the face of the scantling running at right angles to the partition.

802. DOUBLE STUDS, WHERE REQUIRED.

In frame bearing walls all scantlings at corners shall be trebled and openings shall be doubled, and corner scantlings at the corners of two-storey buildings shall extend through in one length to the roof. All such walls shall be provided with top plates which shall be composed of double scantling each scantling being not less than two inches by four inches.

803. FRAME WALL COVERINGS.

Frame external walls shall be covered on the outside by any one of the following methods, provided such construction is permitted by Chapter 35:

- (a) Sheeted with clapboards or tongued and grooved siding, sheathed with one-inch boards and shingled.
- (b) Sheeted with metal siding on one-inch boards, strapped with one inch by two-inch furring strips spaced sixteen inches apart on centre metal lathed, plastered and rough-cast or stuccoed.
- (c) Sheeted with one-inch boards and veneered with four and one-half inches of brick. The veneering shall be securely anchored and fastened to the framework with six-inch nails or approved metallic fastenings every fourth course, and not more than sixteen inches apart on centres. The nails or ties shall be carried through the sheeting and into the studding. Veneering shall not rest upon or be supported by wood lintels or beams.
- (d) In dwellings all walls and ceilings shall be suitably insulated.

804. BEAM FILLINGS.

The space between joists in ground floor shall be filled from top of foundation walls to top of joists with masonry, to be properly flushed up and made air-tight.

5. FIRE STOPPING.

In all frame buildings two storeys in height all stud work and all partitions which rest directly over each other shall be completely fire-stopped with dimension timber at least two inches in thickness or with other approved material, and in addition one girth of 2 inch lumber the full width of the studs the mid-height of each storey.

6. DISTANCE OF FRAME WALLS FROM LOT LINES.

The side walls of all wooden buildings hereafter erected shall be placed at less than thirty-six inches from the lot line. The side walls of all frame buildings hereafter erected when veneered with brick or stucco as defined under Second-class Fire Limits, shall be placed not less than 30 inches from the lot lines.

CHAPTER 9.

ORDINARY BRICK, STONE OR CONCRETE CONSTRUCTION.

- 901. RELATION BETWEEN WALL THICKNESS AND STOREY HEIGHT.
 - 902. WALL SUPPORTS.
 - 903. WALL THICKNESSES, TABULATED.
 - 904. TABULATED THICKNESSES, INCREASED.
 - 905. WALL THICKNESSES, DECREASED.
 - 906. MAXIMUM HEIGHT OF ISOLATED PIERS.
 - 907. WALL FACINGS.
 - 908. WALL LININGS AND FURRINGS.
 - 909. THICKNESSES OF WALLS AT JOIST LEVELS.
 - 910. ANCHORING OF FLOORS TO WALLS.
 - 911. FIRE STOPS IN PARTY WALLS.
 - 912. LEDGES IN MERCANTILE BUILDINGS.
 - 913. LEDGES SUPPORTING PLANK OR LAMINATED FLOORS.
 - 914. LEDGES TO FURRED WALLS.
 - 915. PARAPET WALLS OF MASONRY OR CONCRETE.
 - 916. BALUSTRADES ABOVE ROOF OR CORNICE LINE.
 - 917. BRICK BONDING.
 - 918. STONE WALLS.
 - 919. MORTARS.
 - 920. SOFT OR SALMON BRICK.
 - 921. BROKEN BRICKS.
 - 922. BRICK FOUNDATION WALLS.
 - 923. LINTELS AND ARCHES OVER OPENINGS.
 - 924. CHASES AND RECESSES.
 - 925. CHASES AND RECESSES FOR SIDEWALKS AND PAVING.
 - 926. OPENINGS IN PARTY WALLS.
 - 927. TIMBER IN WALLS.
 - 928. SPANDRELS IN PIER CONSTRUCTION.
 - 929. ANCHORAGE OF SILLS, MOULDS, BELTS, ETC.
 - 930. MASONRY AND CONCRETE SUPPORTS.
 - 931. TENSIONAL STRESSES.
 - 932. HOLLOW WALLS OF BRICK.
 - 933. ALLOWABLE COMPRESSION.
- For Height of Buildings see Chapter 5.
 For Height of Apartment Blocks see Chapter 20.
 For Rear Yards see Section 3202, Chapter 32.

901. RELATION BETWEEN WALL THICKNESS AND STOREY HEIGHT.

For the purpose of determining the relation between storey heights and wall thicknesses as tabulated in Section 903 hereof, storey heights shall be regarded as the perpendicular distance from the top of joists or floor construction in one storey to the corresponding point in the next storey and the maximum storey heights to which the tables in said Section 903 apply are as follows: For Table 1, eleven feet for all storeys, and for Table 2, twelve feet for the basement or cellar storeys, eighteen feet for the first storey, sixteen feet for the second storey, and fifteen feet each for every storey above the second storey, except the top storey which may be eighteen feet.

(For Height of Buildings see Chapter 5.)

(For Height of Apartment Blocks see Chapter 20.)

902. WALL SUPPORTS.

Solid brick walls shall be supported laterally by cross walls, piers or buttresses at right angles to the wall's face at intervals not exceeding twenty-five times the wall thickness, or by reinforced concrete floor or other means designed to transmit and resist the wind load.

903. WALL THICKNESSES, TABULATED.

(a) Table 1 herein applies to stables, garages and sheds, not exceeding eight hundred square feet in area or one storey in height, dwellings, apartment blocks and lodging houses.

(For thickness of basement or cellar walls in dwellings see Section 1906 (c).)

(b) Table 2 herein applies to hotels, office and public buildings, stores or shops, warehouses, storehouses, factories, stables, garages, non-bearing party walls and other buildings not included in Table 1.

(c) Where the perpendicular distances mentioned in Section 901 for the various storeys, are not exceeded, every wall, when built of brick or mass concrete, shall have a thickness of not less than that tabulated in the following tables. It is provided, however, that no wall shall be permitted to support a wall above it having a greater transverse thickness:

TABLE 1.

Number of Storeys	Thickness of Walls in inches					
	Founda- tion Walls	1st Storey	2nd Storey	3rd Storey	4th Storey	5th Storey
	Concrete					
One.....	12	8	--	--	--	--
Two, area up to 1,300 sq. feet.....	12	8	8	--	--	--
Two, area over 1,300 sq. feet.....	12	12	8	--	--	--
Three, area up to 1,300 sq. feet.....	12	12	8	8	--	--
Three, area over 1,300 sq. feet.....	16	12	12	8	--	--
Four.....	16	16	12	12	8	--
Five.....	20	16	16	12	12	8

TABLE II.

Number of Storeys	Thickness of Walls in inches							
	Founda- tion Walls	1st Storey	2nd Storey	3rd Storey	4th Storey	5th Storey	6th Storey	7th Storey
	Concrete							
One.....	12	12	--	--	--	--	--	--
Two.....	12	12	12	--	--	--	--	--
Three.....	16	16	12	12	--	--	--	--
Four.....	20	16	16	12	12	--	--	--
Five.....	20	20	16	16	12	12	--	--
Six.....	24	20	20	16	16	12	12	--
Seven.....	28	24	20	20	16	16	12	12
Eight.....	28	24	24	20	20	16	16	12

If bricks are used in construction of basement walls the class of brick and mortar and thickness of wall shall be subject to the approval of the Building Inspector.

904. TABULATED THICKNESSES, INCREASED.

The thicknesses of walls as specified in Section 903 shall be increased as follows:

(a) If any single storey exceeds the respective heights specified in Section 901, the walls of such storey and of each storey below the same, shall be increased four inches.

(b) When parallel walls are more than twenty-five and less than fifty feet apart without parallel intermediate division walls or rows of column and girder supports, they shall be increased four inches.

(c) The walls of buildings in which floor, roofs or ceilings are carried on trusses or girders having a span of fifty feet or over, shall be not less in thickness from the bottom of the principal floor joists next beneath to the underside of the trusses or girders than the following:

(1) If the walls are over twelve and not over twenty-five feet in height between supports, they shall be at least sixteen inches in thickness.

(2) If the walls are over twenty-five and not over fifty feet in height between supports, they shall be at least twenty inches in thickness for the lower twenty-five feet and sixteen inches in thickness for the remainder.

(3) If the walls are over fifty and not over seventy-five feet in height between supports, they shall be at least twenty-four inches in thickness for the bottom twenty-five feet thereof, twenty inches in thickness for the next twenty-five feet thereof, and sixteen inches in thickness for the remainder.

(4) If the walls are over seventy-five feet in height between supports they shall be adequately increased in thickness and braced.

(5) Where the walls exceed one hundred feet in length without masonry or concrete cross walls adequately bracing them, such walls shall have a further increase in thickness of four inches for each additional fifty feet or part thereof in length over one hundred feet.

(6) Where the walls support more storeys than one above them they shall have a further increase in thickness of at least four inches.

(d) Where any horizontal section of an external or bearing wall shows a reduction in area on account of flues, openings or recesses (hollow spaces in individual units forming the wall excluded) of more than forty per cent. in the upper three storeys of a building or more than thirty per cent. in any remaining storey four inches shall be added to the thickness of the wall for every ten per cent. reduction or part thereof exceeding such forty or thirty per cent. as the case may be. For the purpose of estimating the percentage of opening, a horizontal section of a wall shall mean that portion thereof contained between centre to centre of openings where the floors are not carried on beams and columns, or centre to centre of columns where the floors are carried on beams and columns.

(e) Where the wall is a bearing party wall it shall be increased 4 inches over table No. 2.

905. WALL THICKNESSES, DECREASED.

The thicknesses of walls as specified in Section 903 may be decreased as follows:

(a) Where pilasters, buttresses, piers or columns adequately reinforcing the walls and not exceeding eighteen feet apart on centres, are provided, a reduction of four inches may be made. It is provided, however, that no wall so reduced shall be less than eight inches in thickness in any building referred to in Table No. 1, of Section 903, nor less than twelve

inches in thickness in any building referred to in Table No. 2 thereof, except in one storey commercial or industrial buildings in which such walls may be eight inches in thickness, provided that the roof beams are horizontal.

(b) Where walls are internal and non-bearing they may be four inches less in thickness than called for in such Tables, provided that no such wall shall be less than eight inches in thickness. It is further provided that internal non-bearing partition walls up to ten feet in height may be erected four inches in thickness provided that approved metal reinforcing laid horizontally is placed in the walls, if brick, no farther apart than every sixth course.

(c) Wherever an approved reinforcement is used in inside walls and laid in an approved manner, the thickness of such inside wall sixteen inches or more in thickness may be reduced four inches.

906. MAXIMUM HEIGHT OF ISOLATED PIERS.

No isolated pier shall exceed in height ten times its least lateral dimension and such piers shall be built in cement mortar.

907. WALL FACINGS.

Walls may be built with a facing of stone or terra-cotta if securely tied to a backing of brickwork at least eight inches in thickness, but the thickness of the backing shall not be less than that required for brick walls of the same height if the facing is less than four inches in thickness.

908. WALL LININGS AND FURRINGS.

Where structural hollow tile is used as a lining or furring for walls, it shall not be included in the measurement of the thickness of such walls, nor used for bearing purposes. The exception to this is for spandrel walls not over one storey of fifteen feet in height where the lining courses are the same in thickness as ordinary brick in which walls the tile lining may be included in the thickness of wall.

909. THICKNESS OF WALLS AT JOIST LEVELS.

All changes in the thicknesses of wall shall be made at the top of the joists, and all interior walls supporting joists shall be carried up to and levelled off flush with the top of the said joists.

910. ANCHORING OF FLOORS TO WALLS.

The joists, or in other construction the corresponding members in each storey above the first floor of every building, shall be anchored to the external walls with approved substantial wrought-iron or steel anchors which shall be built solidly into the walls from a point not more than four inches from the outside face of each wall, the distance between the anchors not to exceed eight feet. The ends of all joist or corresponding members upon which anchors are placed are to be securely strapped or otherwise fastened together, so as to form a continuous tie entirely across the building. Where joists are placed in existing walls they shall be similarly thoroughly anchored.

Where joists run parallel to walls they shall be anchored to the wall at least every eight feet longitudinally with a wrought-iron or steel anchor as before, crossing at least two joists. All anchors at ends of joist to be on the bottom side of same. Other anchors may be on top of joists.

911. FIRE STOPS IN PARTY WALLS.

All wooden joists, beams or other timbers in any party wall built of masonry or concrete exceeding eight inches in thickness, shall be separated

from the joist, beam or timber entering the opposite side of the wall by at least four inches of masonry or concrete.

912. LEDGES IN MERCANTILE BUILDINGS.

Where brick walls less than sixteen inches in thickness are utilized for the support of ordinary joists in buildings used for the sale, storage or manufacture of merchandise, for public garages or for public livery, boarding or sales stables, ledges four inches wide shall be provided and if necessary corbelled out in not less than five courses of brick for the support of such joists. In this case the outer faces of the top two courses shall be flush. Ledges shall be similarly provided upon other masonry walls and upon concrete walls.

913. LEDGES SUPPORTING PLANK OR LAMINATED FLOORS.

Where solid plank or laminated floors are carried on brick walls, brick ledges four inches wide shall be corbelled out in five courses of brickwork to carry such floors, except where there is a four-inch offset to the walls. Ledges shall be similarly provided upon other masonry and concrete walls.

914. LEDGES TO FURRED WALLS.

Where furring strips are used on masonry or concrete walls masonry or concrete ledges shall be built projecting for the thickness of the furring strips and extending from the bottom of the joists to the top of the joists. The entire thickness of the wall at this point shall be constructed in cement mortar.

915. PARAPET WALLS OF MASONRY OR CONCRETE.

(a) In flat roofed buildings all party and exterior walls exceeding fifteen feet in height above the ground except exterior walls facing on a street, lane, alley or open space and finished off with cornices and gutters at the roof line shall have parapet walls above them at least eight inches in thickness and extending at least two feet above the roof at the point of contact.

(b) Parapet walls of 8 inches in thickness or less shall be laid up in cement mortar.

(c) Where a fire-resisting roof is provided no parapet wall shall be required provided the roof is properly drained away from the exterior walls.

(d) Wherever a concrete slab abuts the inside of a parapet and fire wall an expansion joint shall be provided between slab and parapet wall, such joint to be at least one inch in width for every 100 lineal feet of length or width of the roof.

(e) Where a skylight or bulkhead of any kind carried above a roof is located within five feet of a parapet wall, such parapet wall shall be carried to a height of at least fourteen inches above the skylight or bulkhead and shall extend at least two feet beyond each end of such skylight or bulkhead provided that such parapet wall does not abut on a public street or lane.

(f) All parapet walls extending over six times their thicknesses above the roof supports, shall be securely buttressed or to the satisfaction of the Building Inspector.

916. BALUSTRADES ABOVE ROOF OR CORNICE LINE.

Balustrades or other ornamental features above the roof or cornice line of any buildings may be constructed of frame covered with galvanized iron or superior construction. Such features shall be properly braced.

917. BRICK BONDING.

(a) In all brick work, except as specified in sub-section (b) hereof, not more than five courses of stretchers shall be laid without a course of headers.

(b) Pressed brick facings or veneers shall be bonded to the backing with galvanized metallic wall ties at least every fifth course, the ties to be placed not more than two feet apart, or ties may be used every fifth course or a row of solid headers every ninth course.

918. STONE WALLS.

Stone walls shall be bonded with sufficient headers.

919. MORTARS.

(a) The sand used for mortar shall be clean, sharp and coarse, and free from loam or other deleterious material having a tendency to lessen the adhesive or compressive strength of the mortar.

(b) All lime used for mortar shall be of good quality, thoroughly burned and properly slacked before it is mixed with the sand.

(For Lime Mortar, see Section 201.)

(For Cement Mortar, see Section 201.)

(For Lime and Cement Mortar, see Section 201.)

920. SOFT OR SALMON BRICK.

Brick not complying with the physical requirements specified in Section 933 shall not be used in any wall where exposed to the weather, in any pier or chimney or in any part of a wall heavily loaded or supporting more than twenty-five feet of wall above it, and in no case shall the amount of such brick used in any wall exceed ten per cent. uniformly distributed throughout the wall.

921. BROKEN BRICKS.

No brick wall shall have in its construction an amount of broken bricks (bats) in excess of ten per cent. of the volume of such wall, and such bricks shall be uniformly distributed throughout the wall.

922. BRICK FOUNDATION WALLS.

All brick work below grade shall be of hard burned clay brick.

923. LINTELS AND ARCHES OVER OPENINGS.

(a) Openings under four feet in width may have wood lintels placed over them on the inside of the wall, provided that a brick relieving arch is built over the lintel. In such cases the lintel shall have a bearing at each end of four inches on the wall. This sub-section shall not apply to fire-resisting construction.

(b) All masonry and concrete work over openings under four feet in width, not carried as specified in sub-section (a) hereof, and all masonry and concrete work over openings exceeding four feet in width, shall be supported on stone, reinforced concrete, iron or steel lintels of sufficient strength to carry the superimposed weights, excepting where such masonry and concrete work is supported by properly tied and substantial arches.

924. CHASES AND RECESSES.

No chase or recess for water, soil, steam or other pipes, shall be made in any exterior or bearing wall to more than one-third of the thickness of such wall. The chases or recesses around the said pipe or pipes shall be filled up with solid masonry, or plastic incombustible material, after the pipes are in place, for the distance of one foot at both the top and bottom of each storey. No chase or recess shall be made in any exterior or bearing wall less than

twelve inches in thickness and no continuous vertical chase or recess other than for flues or stacks shall be closer than seven feet to any other chase or recess. Channelling shall not be done in any wall less than twelve inches in thickness, except for small gas or water pipes, or for wire conduits. All openings larger than four inches square, or chases or recesses deeper than four inches, shall be located upon the plans and left in the walls as they are carried up. Horizontal chases or recesses in excess of 5 feet in length to a greater depth than two inches shall not be cut or left in any wall.

925. CHASES AND RECESSES FOR SIDEWALKS AND PAVING.

On outside walls abutting on streets, avenues or lanes, a chase $1\frac{1}{2}$ inches deep by $5\frac{1}{2}$ inches in height shall be left as a bearing for future sidewalks or paving, or alternatively a corbel or offset may be left for this purpose.

926. OPENINGS IN PARTY WALLS.

No person shall cut or leave any opening in any party wall without the approval of the Building Inspector. No opening left in or cut through a party wall shall exceed one hundred and twenty square feet in area with either length or width exceeding twelve feet, and shall be provided with an approved fire-resisting door on each side of the wall, the door to be hung on metal frames or on iron hinges bolted through the wall. Such doors shall be kept closed when not in use.

927. TIMBER IN WALLS.

No timber shall be used in any masonry or concrete wall except as follows:

- (a) Internal lintels, where permitted by this By-law.
- (b) Wood blocks each not exceeding nine inches in length.
- (c) Wood lath nailing strips not less than eight courses of brick apart.

928. SPANDRELS IN PIER CONSTRUCTION.

If a building, or any portion thereof, is of pier construction (see Section 201 (80)), the spandrel walls between the piers shall be not less than that required for spandrel walls in skeleton construction.
(See Section 1502.)

929. ANCHORAGE OF SILLS, MOULDS, BELTS, ETC.

All cut stone, terra-cotta, artificial stone or other incombustible trim of walls, such as sills, lintels, cornice moulds, belts, etc., shall be properly anchored with non-corrodible anchors to the backing unless it shall have at least 2-3 of its mass, with a minimum dimension of four and one-half inches, laid and bearing directly upon the walls, or in lieu of this requirement it shall be carried upon steel lookouts adequately anchored to the walls.

930. MASONRY AND CONCRETE SUPPORTS.

No wall, pier, pilaster or buttress of masonry or concrete shall be supported in whole or in part by wooden posts, beams or girders.

931. TENSIONAL STRESSES.

For the purpose of this By-law, masonry or concrete walls, piers, pilasters, or buttresses shall not, except in radial brick chimneys be considered as affording resistance to tensional stresses.

932. HOLLOW WALLS OF BRICK.

Hollow walls of brick if laid in all rowlock bond, i.e. alternate headers and stretchers of brick on edge in every course, may be used for eight and twelve inch walls provided that unit working stresses do not exceed seventy pounds per square inch for lime and cement mortar and eighty pounds per square inch for cement mortar over the gross area of the horizontal section of the wall.

933. ALLOWABLE COMPRESSION.

The maximum load in compression placed upon walls, piers, pilasters, buttresses or other supports constructed of first-class materials of the several kinds mentioned in this section, shall not exceed the amounts tabulated as follows:

Material	Tons per sq. foot	Pounds per sq. inch
Soft brick laid in lime mortar-----	5	70
Medium brick laid in lime mortar-----	6	83
Hard brick laid in lime mortar-----	7	98
Medium brick laid in lime and cement mortar-----	9	126
Hard brick laid in lime and cement mortar-----	11	153
Hard brick laid in cement mortar-----	15	208
Rubble stone laid in lime mortar-----	4	56
Rubble stone laid in lime and cement mortar-----	6	83
Rubble stone laid in cement mortar-----	8	111
Dressed limestone or hard sandstone-----	43	600

Other similar materials as permitted by the Inspector of Buildings.

The materials specified in the preceding table, in order to obtain the working value therein assigned to them, shall comply with the following requirements:—

(a) Brick shall be classified as hard, medium or soft, in accordance with the physical tests described in the following table, the tests to be made by a laboratory of recognized standing, upon samples representing the average product of the yard manufacturing same.

Name of Grade	Compressive Strength (on Flat) lbs. per sq. inch (Half brick bedded in plaster of paris)	Modulus of Rupture, lbs. per sq. inch
Hard-----	4,000	400
Medium-----	2,750	300
Soft-----	1,500	200

CHAPTER 10.

STRUCTURAL HOLLOW TILE CONSTRUCTION.

- 1001.** WHERE AND HOW PERMITTED.
- 1002.** CLASSIFICATION OF STRUCTURAL HOLLOW TILE.
- 1003.** CONCRETE TILE OR BLOCK.
- 1004.** HEIGHT AND THICKNESS OF WALLS.
- 1005.** BOND.
- 1006.** ALIGNMENT OF SHELLS AND WEBBS.
- 1007.** REINFORCEMENT UNDER CONCENTRATED LOAD.
- 1008.** LINTELS.
- 1009.** CONCRETE FOR VOID FILLING.
- 1010.** BRICK FACINGS.
- 1011.** CHASES AND RECESSES.
- 1012.** INTERNAL NON-BEARING PARTITIONS.
- 1013.** BOND AT CHIMNEYS.
- 1014.** ALLOWABLE COMPRESSION.

1001. WHERE AND HOW PERMITTED.

(a) Structural hollow tile of Class "A" specified in Section 1002 may be used in the walls but not in the piers, buttresses or pilasters, of buildings in all cases where brick may be used except in foundation walls below grade, provided such tile and walls conform to the requirements of this Chapter, and where not mentioned in this chapter, to the requirements of Chapter 9, dealing with ordinary brick, stone and concrete construction as far as they apply. It is provided, however, that unless special tile to provide adequate bond is used, such construction shall not be used at corners or angles which are not right-angles.

(b) Class "B" tile may be used for non-bearing partitions only.

(c) Gypsum block tile shall be regarded as Class "B" material and shall conform with the requirements of Class "B" for side construction.

1002. CLASSIFICATION OF STRUCTURAL HOLLOW TILE.

	Percentage absorption		Compressive strength based on gross area. Pounds per square inch.			
	Mean of 5 Tests	Individual Maximum	End Construction Mean of 5 Tests	Individual Minimum	Side Construction	
					Mean of 5 Tests	Individual Minimum
Class "A"	16 or less	19	1400 or more	1000	700 or more	500
Class "B"	16 to 25	28	1200 to 1400	700	500 to 700	350

1003. CONCRETE TILE OR BLOCK.

All concrete tile or block used in the construction of buildings shall be marked or branded for identification, and such marks or brands shall be

registered with the Building Inspector. When required by the Building Inspector, samples of such tiles or blocks shall be tested at a testing laboratory of recognized standing, the test to be carried out at the expense of the manufacturer or user of such blocks. Tiles or blocks falling below the compression and absorption requirements of this Chapter shall be rejected for use.

1004. HEIGHT AND THICKNESS OF WALLS.

(a) Walls of hollow tile or concrete blocks or tile shall not exceed 15 feet or one storey in height above the top of the foundation walls.

(b) The minimum thickness of exterior walls of hollow tile or concrete blocks or tiles shall be not less than eight inches with 4 inch brick facing properly bonded.

(c) Dwellings may be constructed of 8 inch hollow tile with a facing of four inch of brick veneer properly bonded or without brick veneer of 12 inch hollow tile for the 1st storey and 8 inch hollow tile for the 2nd storey provided that the building is stuccoed on the outside.

1005. BOND.

For walls over eight inches thick, more than one unit shall be used to make up the thickness and the inner and outer courses shall be bonded at vertical intervals not exceeding three courses by lapping at least one cell completely over a cell of the unit below.

1006. ALIGNMENT OF SHELLS AND WEBS.

Structural hollow tile, whether horizontally or vertically laid, shall be so designed and proportioned in size that when built into the wall the shells and webs will consistently and continuously rest and align one over the other.

1007. REINFORCEMENT UNDER CONCENTRATED LOAD.

Where concentrated loads, not meaning ordinary joists, are supported on such tile, they shall not be permitted to have a direct bearing thereon, but beams having adequate strength and bearing area to properly distribute the load to the tile shall be provided, and the course directly beneath the beams shall be filled in solidly with concrete. The tile directly supporting ordinary joists shall also be filled in solidly with concrete, or instead thereof, three courses of brick laid as stretchers may be substituted.

1008. LINTELS.

(a) On openings less than four feet wide, chamfered wood lintels may be used in interior walls and on the inner side of exterior walls, provided that relieving arches of properly formed arch blocks are constructed over the wood lintel.

(b) On openings, not exceeding eight feet wide, which do not support any load other than roof or wall loads, lintels may be built of hollow tile filled with concrete and reinforced with metal bars. The depth of such tile lintels shall be not less than one-eighth of the span.

(c) Openings over four feet in width in load bearing walls, except as above stated, and all openings over eight feet in width shall have lintels of structural steel, or reinforced concrete.

(d) All lintels shall have a bearing at each end of not less than six inches. Provision shall be made for distributing loads by means of plates or brick courses, where the loads exceed the maximum allowable compression set forth in Section 1014 hereof.

1009. CONCRETE FOR VOID FILLING.

Where the voids in structural hollow tile are required by this chapter to be filled with concrete, such concrete shall be the same in quality and mixture as specified for reinforced concrete construction (see Section 1401), but the allowable compression shall not be greater than that permitted under Section 1014 hereof. The coarse aggregate shall not be larger than three quarters of an inch.

1010. BRICK FACING.

Where walls of tile are veneered with a brick facing the brick shall be bonded to the tile backing with approved metal ties bedded in the mortar joints, and such ties shall be spaced not farther apart than one foot vertically and two feet horizontally. Such veneering shall not be considered as forming a part of the wall thickness required for bearing walls unless it is bonded at least four inches into the wall by a header course at intervals not exceeding six courses of brick, in which case metal ties shall not be required.

1011. CHASES AND RECESSES.

Chases and recesses shall not be cut in hollow tile walls but may be built in. No chases or recesses shall be permitted in fire walls that will reduce the thickness below the minimum specified in this By-law.

1012. INTERNAL NON-BEARING PARTITIONS.

Internal non-bearing partitions six and four inches in thickness may be erected not exceeding in height twenty and fifteen feet respectively, but such partitions shall be laid up in cement mortar and be secured at the top to the ceiling or other construction. Gypsum blocks shall be set up in gypsum cement mortar.

1013. BOND AT CHIMNEYS.

Where brick chimneys are constructed in tile walls the brickwork of the chimneys shall be adequately bonded into such walls.

1014. ALLOWABLE COMPRESSION.

The maximum load in compression placed upon walls constructed of structural hollow tile shall not exceed the amounts tabulated as follows:

Kind of Mortar	Pounds per square inch (Gross cross-section area)
Lime—(See Section 201 (62)) -----	50
Lime and Cement— (See Section 201)-----	70
Cement—(See Section 201 (18)) -----	80

CHAPTER 11.

TIMBER CONSTRUCTION.**1101. BRIDGING.****1102. WALL BEARINGS AND STIRRUPS.****1103. PERMISSIBLE STRESSES.****1104. COLUMN CAPS.****1105. COLUMN FORMULA.****1106. LIMITED LENGTH OF COLUMNS.**

For bridging in dwellings see Section 1909.

For woodwork around chimneys see Section 2912.

For frame wall construction see Chapter 8.

1101. BRIDGING.

All wooden floor and roof joists shall be bridged, once in every eight feet of span. (See also Section 1909 for bridging in dwellings.)

1102. WALL BEARINGS AND STIRRUPS.

All beams, joists and rafters entering masonry or concrete walls for support, shall have a bearing upon such walls of at least three and one-half inches, with a maximum, in the case of joists, of four inches. Their ends shall be so splayed that the upper portion will extend not more than one inch into the wall. It is also provided that timbers may be hung, either at wall bearings or at beam intersections, on metal stirrups so constructed that the stresses produced in the materials affected will not exceed those permitted by this By-law.

1103. PERMISSIBLE STRESSES.

The stresses per square inch of cross-sectional area to which timbers may be subjected shall not exceed those specified in the following tables:

WORKING STRESSES

Kind of Material	Tension		Compression		Bending (extreme fibre)	Shear	
	With grain	Across grain	Columns under 10 diameter	Across grain		With grain	Across grain
White Oak.....	1440	160	1000	550	1400	125	1100
Douglas Fir (B.C. select)	1600	50	1200	350	1600	100	1400
Douglas Fir (B.C. common)	1200	-	880	320	1200	72	900
Hemlock (Western).....	1300	50	900	300	1300	75	800
Red or Norway Pine	1100	50	800	300	1100	85	600
White Pine.....	1000	50	800	250	1000	85	600
Spruce.....	1100	50	800	250	1100	85	800
Cedar (Damp locations) ..	750	50	630	200	750	80	500

1104. COLUMN CAPS.

Wooden columns shall have cast iron, wrought iron, or steel caps of an approved pattern, so constructed as to form a base for the next column above, and afford support for beams or girders, enabling them to be properly secured to the caps. The caps may be omitted for those columns which carry the roof only.

1105. COLUMN FORMULA.

In wooden columns having an unsupported length more than ten times the least diameter or side, the allowable working stresses in compression per square inch of cross-sectional area shall not exceed those determined by the following formula:

$$S = E \left(1 - \frac{L}{60D} \right)$$

Where S = allowable working stress in lbs. per square inch.

E = unit compression strength with the grain as defined in Section 1103 above.

L = unsupported length of column in inches.

D = least diameter or side in inches.

1106. LIMITED LENGTH OF COLUMNS.

The unsupported length of wooden columns shall not exceed thirty times the least diameter or side of column.

Kind of Material		Tension		Compression		Bending	
Allowable Stress (lbs. per sq. in.)	Working Stress (lbs. per sq. in.)	Allowable Stress (lbs. per sq. in.)	Working Stress (lbs. per sq. in.)	Allowable Stress (lbs. per sq. in.)	Working Stress (lbs. per sq. in.)	Allowable Stress (lbs. per sq. in.)	Working Stress (lbs. per sq. in.)
White Oak	1400	180	1000	550	1400	125	1100
Knotty Fir (B.C. select)	1300	50	1200	350	1600	100	1400
Knotty Fir (B.C. common)	1200	50	880	320	1300	75	900
Knotty Fir (Western)	1300	50	900	300	1300	75	800
Knotty Fir (Norway Pine)	1100	50	800	300	1100	85	600
Knotty Fir	1000	50	800	250	1000	85	600
Knotty Fir	1100	50	800	250	1100	85	600
Knotty Fir	750	50	630	200	750	80	600

CHAPTER 12.

CAST IRON CONSTRUCTION.**1201.**

Refer to the American Society for Testing Materials.

CHAPTER 13.

STEEL CONSTRUCTION.**1301.**

The standard specifications of the American Institute of Steel Construction Incorporated and the American Society for Testing Materials as the same may vary from time to time are hereby incorporated and made a part of this By-law.

CHAPTER 14.

REINFORCED CONCRETE CONSTRUCTION.**1401.**

"The Joint Code Building Regulations for Reinforced Concrete" (Report of Committee E 1, American Concrete Institute), as the same may vary from time to time, is hereby incorporated into and forms part of this By-law.

1402. REINFORCED CONCRETE, PERSON IN CHARGE.

The construction of all reinforced concrete structures shall be carried out only under the personal direction of a person experienced and competent in that type of work.

1403. CONDUITS AND PIPES IN STRUCTURAL MEMBERS.

Where pipes or conduits pass through structural members or slabs adequate allowance shall be made in the design to compensate for the loss in strength caused by the same.

CHAPTER 15. SKELETON CONSTRUCTION WITH SPANDREL OR CURTAIN WALLS.

1501. COMPOSITION OF FRAME WORK.

1502. SPANDREL WALLS.

1503. CURTAIN WALLS.

1504. FIREPROOFING OF COLUMNS IN NON-FIRE-RESISTING CONSTRUCTION.

For Cast Iron Construction see Chapter 12.

For Loads see Chapter 18.

1501. COMPOSITION OF FRAME WORK.

The framework shall be constructed of steel or reinforced concrete, or in buildings up to seventy feet in height the columns may be of cast iron. Such framework shall be built in compliance with the stresses and other requirements specified in this By-law for such materials.

(See also Chapter 12 for Cast Iron Construction.)

1502. SPANDREL WALLS.

(a) Spandrel walls of brick, tile, concrete, or a combination of these materials, shall have a minimum thickness of twelve inches, except that spandrel walls under 200 square feet in area may be 8 inches thick except as specified otherwise in this By-law.

(b) Spandrel walls of reinforced concrete shall comply with the requirements of Chapter 14.

(c) In buildings where sixty or more per cent. of any horizontal section of a spandrel wall between columns consists of windows, and the apron wall does not exceed four feet in height from the top of the beam or girder, such apron wall may have a minimum thickness of eight inches if laid in Cement mortar. (See Section 201 (18).)

(d) Spandrel walls shall not exceed one storey in height and shall be carried on beams or girders at each floor level.

1503. CURTAIN WALLS.

(a) Curtain walls exceeding thirty-five feet in height shall be constructed of brick or concrete, provided the stresses permitted by this By-law for such walls are not exceeded.

(See Chapters 9 and 14.)

(b) Curtain walls of reinforced concrete shall comply with the requirements specified in Chapter 14.

(c) Curtain walls not exceeding thirty-five feet in height may be constructed of structural hollow tile and faced with not less than four inch brick, provided the stresses permitted by this By-law for such walls are not exceeded.

(See Section 1014.)

(d) Curtain walls shall be anchored to beams at each floor and roof level. Such beams shall be rigidly connected to the columns and shall preferably form a part of the floor system. The anchors shall be placed at intervals not exceeding eight feet, with a minimum of two anchors to each beam.

(e) Curtain walls except reinforced concrete shall have a minimum thickness of eight inches, and if of brick or hollow tile shall be laid up in cement mortar.

1504. FIREPROOFING OF COLUMNS IN NON-FIRE-RESISTING CONSTRUCTION.

All iron or steel structural members in buildings over two storeys in height and coming within the scope of this chapter shall be fire-proofed as provided in Chapter 16, except the upper two storeys. It is further provided that columns built into curtain walls shall have at least four and one-half inches of fireproofing between the column and outer face of the wall.

CHAPTER 16.

FIRE RESISTING CONSTRUCTION.**1601. WALLS AND CORNICES.****1602. PIERS, BUTTRESSES AND PILASTERS.****1603. FLOOR AND ROOF SLABS.****1604. COLUMNS, BEAMS, GIRDERS, LINTELS, ETC.****1605. STAIRS, PARTITIONS AND FIRE WALLS.****1606. DOORS AND WINDOWS.****1607. FIRE-RESISTING COVERINGS FOR STRUCTURAL METALS.****1608. PLUMBING AND HEATING PIPES AND ELECTRIC CONDUITS.**

For Steel Joist Construction see Section 1301.

1601. WALLS AND CORNICES.

All exterior walls shall be constructed of brick, a combination of brick and hollow tile, or other hard burned clay products, or of stone laid up in cement mortar, or of concrete, either plain or reinforced. Cornices and their supports shall be constructed of incombustible material.

1602. PIERS, BUTTRESSES AND PILASTERS.

Piers, buttresses and pilasters shall be constructed of brick or stone, laid up in cement mortar, or of concrete either plain or reinforced.

1603. FLOOR AND ROOF SLABS.

Floor and roof slabs or arches shall be constructed of brick, hollow tile, or other hard burned clay products, laid up in cement mortar, or of concrete, suitably reinforced. Pre-cast or poured slabs of gypsum suitably reinforced may be used for roof slabs.

1604. COLUMNS, BEAMS, GIRDERS, LINTELS, ETC.

All columns, beams, girders, lintels, or other structural members shall be constructed of iron or steel, having fire-resisting covering as specified in Section 1607 or of reinforced concrete.

(See also Section 1301 for steel joist construction.)

1605. STAIRS, PARTITIONS AND FIRE WALLS.

All stairs and stair enclosures, all elevator and corridor enclosures, and all partitions except partitions sub-dividing units under single occupancy, such as residential suites and offices, shall be constructed of incombustible materials. Stair enclosures and elevator shafts must be brick or concrete of suitable thickness as defined in this By-law.

Wherever Fire Doors are placed the surrounding walls must be of brick or concrete and of sufficient width on each side of the opening to support adequately such fire doors and other incidental equipment.

1606. DOORS AND WINDOWS.

All doors to stairways, corridors, elevators and boiler rooms or through fire-walls shall be approved fire-resisting doors. All exterior doors and window frames, sash and mullions, except those facing on streets forty-nine feet or over in width, shall be of fire-resisting material, and shall be glazed with wired glass except in the case of show windows on the ground storey and except in the case of windows in apartment blocks.

1607. FIRE-RESISTING COVERINGS FOR STRUCTURAL METALS.

The following materials shall be considered as fulfilling the requirements for fire-resisting coverings for iron or steel members:

(a) **BRICK:** Brick laid in mortar, having a minimum thickness of four and one-half inches.

(b) (1) **CONCRETE:** Concrete mixed in the proportions designated as 1, 2, 4, in Section 1401, the coarse aggregate being not larger in any dimension than three-quarters of one inch. The minimum thickness of concrete as a fire-resisting material shall be two inches.

(2) Where concrete is used for the fire-proofing of structural members the concrete shall be securely attached to the structural members by some approved method of reinforcing.

(c) **STRUCTURAL HOLLOW TILE:** Structural hollow tile on a full bed of mortar laid in accordance with the following regulations:

(1) Exterior columns shall have a minimum covering of four inches.

(2) Interior columns shall have a minimum of three inches on the outside of all metal, and the haunches shall be filled with tile, brick or grout.

(3) Beams and girders shall have a flange covering of one and one-half inches if solid, or two inches if hollow.

(4) The flange of plate girders or trusses supporting two or more floors shall have a minimum covering of three inches on the underside, and two inches at the sides of the flanges.

(5) The web protection of all beams and girders shall be carried up flush with the outside of the flange protection, and shall be built in solid to the web.

(6) A minimum thickness of all webs in structural hollow tile shall be five-eighths of an inch.

(d) **CEMENT MORTAR TO BE USED:** In all cases, the brick, burned clay, tile or terra-cotta used as a fire-proof covering, shall be bedded in cement mortar close up to the metal members, and all joints shall be made full and solid.

(e) **GYPSUM:** (Precast gypsum moulded sections and either hollow or solid gypsum tile, laid in gypsum and suitably secured to the structural members) Gypsum shall not be used for fire-resisting covering where it is exposed to the weather.

Columns shall be encased in 2 inch solid gypsum tile or 3 inch hollow tile. All corners shall interlock showing an end and face alternately. If precast moulded sections are used, the minimum thickness of covering shall be 2 inches. Gypsum covering for beams and girders shall have a minimum thickness of 2 inches as for columns. Precast moulded shoe pieces may be used for flanges and 2 inch solid or 3 inch hollow gypsum tile may be filled in between the shoe pieces alongside the web. Where fire-resisting coverings are formed by gypsum applied in a plastic state, to the structural members after erection, the details of the method employed and the thickness to be used shall be subject to the approval of the Building Inspector.

1608. PLUMBING AND HEATING PIPES AND ELECTRIC CONDUITS.

Plumbing or heating pipes are to be carried up outside of the fire-proofing. Electric conduits, if carried up inside the fire-proofing, must be kept at least two inches from the structural metal, except over the tops of beams or girders.

CHAPTER 17.

ROOFING, ROOF STRUCTURES, CORNICES, GUTTERS, EAVETROUGHS, ETC.

1701. ROOF COVERINGS.

1702. CORNICES, GUTTERS, STRING COURSES, ETC.

(See Sec. 1601 and 3502 also.)

1703. SNOW PROTECTION AND GUARDS.

1704. SKYLIGHTS.

1705. SCUTTLES.

1706. PENT HOUSES. (See also Section 506.)

1707. MANSARD ROOFS.

1708. LANTERNS, MONITORS, DOMES, SPIRES AND TOWERS.

1709. ROOF TANKS.

For Fire Limits see Chapter 35.

1701. ROOF COVERINGS.

(a) Felt and gravel, slate, iron, tin and tile roofings shall for the purpose of this By-law be considered as incombustible.

1702. CORNICES, GUTTERS, STRING COURSES, ETC.

(a) Except as otherwise provided in this By-law, all exterior cornices, string courses, and gutters on buildings hereafter erected (except frame buildings or private dwellings up to two storeys in height) shall be constructed of incombustible material, the greater weight of which, if of masonry or concrete, shall be inside the outer face of the wall upon which such cornice or other projection rests.

(b) If a cornice or other projection, other than eavestroughing, is constructed of metal it shall be supported on, and anchored to, the walls with substantial anchors and brackets but in the case of buildings over two storeys must be supported by steel brackets.

(See also Section 3502 (a).)

(c) The top of all cornices on buildings shall be sloped towards the building and no cornice shall project over the street line more than three feet.

(d) RAINWATER LEADERS NECESSARY ON ALL BUILDINGS.

Buildings now or hereafter erected fronting on a street shall be kept provided with proper leaders for conducting the water from the roof to the ground and connected with the sewer, street, gutter or dry well, in such manner as shall protect the walls and foundations from damage, and in no case shall water from the said roof be allowed to flow upon the sidewalks.

(e) There shall be a distance of not less than 18 inches between the horizontal projection of the eaves and the property line.

1703. SNOW PROTECTION AND GUARDS.

All roofs so constructed and located that the snow which lodges upon them is liable to slide from them on to the street, sidewalk, road or any place where it would endanger public safety, shall be protected with sufficient snow guards to prevent such sliding from taking place. If snow lodges upon any cornice, gutter, or any other part of a building, and is liable to slide in such quantity as to be dangerous to the public, it shall be at once removed by the owner or occupant of such building. On buildings which are constructed to the lot line no type of roof shall be permitted which will discharge or permit the discharge of snow slides or icicles on to the street.

1704. SKYLIGHTS.

(a) All skylights shall be constructed wholly of incombustible material and except as herein provided shall be glazed with wired glass, or heavy plain glass if protected above by galvanized wire screens not less than six inches above them, the screens to be rigidly supported by iron or steel supports and be in size not less than No. 8 and in mesh not coarser than one and one-half inches. Skylights over floors to which the public have access shall have a similar wire screen securely fastened in a horizontal position underneath them or be glazed with wired glass.

(b) No wired glass shall be placed in a skylight at the top of any enclosure for elevators, stairways, dumb waiters, vent and light shafts, or over a theatre stage. All such skylights shall be glazed with thin glass and shall be protected by galvanized wire screens as hereinbefore provided. (See Chapter 25.)

1705. SCUTTLES.

All roofs shall be so constructed as to be easily reached by a scuttle or by iron steps fastened to the outside of the outer wall. If by scuttle the scuttle shall be a least twenty by thirty inches and the frame and lid covered with metal.

1706. PENT HOUSES.

Pent houses hereafter erected upon or above the roofs of buildings shall be built of incombustible material, or of wood covered on all sides, including doors, door and window frames, sash, mullions and transoms, with metal or other incombustible material. The roof shall be covered with an incombustible roofing. (See Section 1701.) All windows in a pent house or other projection above the roof shall have sashes glazed with wired glass except that pent houses over elevator shafts shall have the windows, if any, on the side farthest from the nearest adjoining property, glazed with plain glass. When a pent house adjoins a party, division or outside wall of a building such walls shall be carried up to a height of at least eighteen inches above the roof of the pent house and shall extend at least six inches beyond the remaining walls of the pent house, when such remaining walls are not built of incombustible material. Easy means of access must be provided to pent houses.

1707. MANSARD ROOFS.

(a) In ordinary or mill construction a mansard, or other roof of like character having a pitch of over sixty degrees, the lower portion of which is placed upon any building exceeding thirty-five feet in height, shall be constructed with iron or steel rafters and be plastered on the inside upon iron or steel lath; or it may be constructed of wood rafters, provided that the space between the outside sheeting and the lath is well filled with mineral wool or other incombustible material. The outside sheeting shall be covered with metal, slate or tile.

(b) A mansard roof shall be considered at least one full storey, and no mansard roof shall be constructed more than one storey in height, except upon buildings of fire-resisting construction.

1708. LANTERNS, MONITORS, DOMES, SPIRES AND TOWERS.

Except as otherwise permitted by Chapter 35, all lanterns, monitors, domes, spires, or towers shall be finished externally with tin, iron, copper, slate, tile or other material of an incombustible nature.

1709. ROOF TANKS.

(a) Tanks for water or other purposes erected over roofs of buildings shall be adequately supported.

(b) All exposed metal supports of such tanks shall be well covered, and regularly coated with an approved material which will effectually protect the metal and prevent the formation of rust.

(c) The cover or lid on top of such tanks may be of wood covered with sheet metal or other incombustible material.

CHAPTER 18.

LIVE LOADS.

- 1801. GENERAL.**
- 1802. HUMAN OCCUPANCY.**
- 1803. INDUSTRIAL OR COMMERCIAL OCCUPANCY.**
- 1804. ROOF LOADS.**
- 1805. ALLOWANCE FOR MOVABLE PARTITION LOADS.**
- 1806. REDUCTIONS IN LIVE LOADS.**
- 1807. WIND PRESSURE.**
- 1808. LIVE LOADS TO BE POSTED.**
- 1809. OCCUPANCY PERMITS.**
- 1810. WEIGHTS OF MATERIALS.**

For allowable stresses see Chapters on materials used.

MINIMUM LIVE LOADS ALLOWABLE FOR USE IN DESIGN OF BUILDING.

1801. GENERAL.

No building or part of a building shall be designed for live loads less than those specified in the following sections:

1802. HUMAN OCCUPANCY.

(a) For rooms or private dwellings, hospital rooms and wards and corridors, guest rooms in hotels, lodging houses and apartment blocks, and for similar occupancies, the minimum live load shall be taken as forty pounds per square foot uniformly distributed.

(b) For floors for office purposes and for rooms with fixed seats, as in churches, school classrooms, reading rooms, museums, art galleries and theatres, the minimum live load shall be taken as fifty pounds per square foot uniformly distributed. Notwithstanding the foregoing, provision shall be made, however, in designing office floors, for a load of two thousand pounds placed on any space two and one-half feet square wherever this load upon an otherwise unloaded floor would produce stresses greater than fifty pounds distributed load would produce.

(c) For aisles, corridors, lobbies, public spaces in hotels and public buildings, banquet rooms, dance halls, assembly halls without fixed seats, grandstands, theatre stages, gymnasiums, stairways, fire escapes or exit passage-ways, and other spaces where crowds of people are likely to assemble, the minimum live load shall be taken as one hundred pounds per square foot uniformly distributed. This requirement shall not apply, however, to such spaces in private dwellings for which the minimum load shall be taken as in paragraph (a) of this section.

1803. INDUSTRIAL OR COMMERCIAL OCCUPANCY.

In designing floors used for industrial or commercial purposes, or purposes other than previously mentioned, the live load shall be assumed as the maximum caused by the use which the building or part of the building is to serve. The following loads shall be taken as the minimum live load per-

missible for the occupancies listed, and loads at least equal to these shall be assumed for uses similar in nature to those listed in this section

Floors used for:	Minimum live load (Lbs. per sq. foot.)
Storage for general purposes.....	250
Manufacturing (light)	100
Manufacturing (heavy).....	250
Wholesale Stores (light merchandise).....	100
Wholesale Stores (heavy merchandise).....	250
Retail Salesrooms (light merchandise).....	100
Retail Salesrooms (heavy merchandise).....	150
Stables.....	100
Garages (ground floors).....	150
Garages (upper floors).....	125
Sidewalks over areas.....	250

The definition of the terms "light" and "heavy" and their application to manufacturing plants, wholesale stores, warehouses and retail salesrooms and other buildings shall be in the absolute discretion of the Building Inspector.

1804. ROOF LOADS.

Roofs having a rise of four inches or less per foot of horizontal projection shall be proportioned for a vertical live load of thirty pounds per square foot of horizontal projection applied to any or all slopes. With a rise of more than four inches and not more than twelve inches per foot a vertical live load of twenty pounds on the horizontal projection shall be assumed. If the rise exceeds twelve inches per foot no vertical live load need be assumed but provision shall be made for wind force acting normally or at right angles to the roof surface (on one slope at a time) of twenty pounds per square foot of surface.

1805. ALLOWANCE FOR MOVABLE PARTITION LOADS.

Floors in office and public buildings and in other buildings subject to shifting of partitions without reference to arrangement of floor beams or girders shall be designed to support in addition to other loads, a single partition of the type used in the building placed in any possible position.

1806. REDUCTION IN LIVE LOADS.

Except in buildings for storage purposes the following reductions in assumed total floor live loads are permissible in designing columns, piers, walls and foundations, but not in designing floor frames and beams:

	Reduction of total live loads carried Per cent.
Carrying of roof.....	0
" " one floor.....	15
" " two floors.....	20
" " three floors.....	25
" " four floors.....	30
" " five floors.....	35
" " six floors.....	40
" " seven floors.....	45
" " eight floors or more.....	50

For determining what the area of footings should be the full dead loads plus the live loads, with reductions figured as permitted above, shall be taken;

except that for pile foundations or piers to rock, under buildings of all types the live loads may be taken as seventy-five per cent. of those required for spread footings.

1807. WIND PRESSURE.

(a) For the purpose of design the wind pressure upon all vertical plane surfaces of all buildings and structures shall be taken at not less than ten pounds per square foot for those portions less than forty feet above ground, and at not less than twenty pounds per square foot for those portions more than forty feet above ground.

(b) The wind pressure upon sprinkler tanks, sky signs, or upon similarly exposed structures and their supports, shall be taken at not less than thirty pounds per square foot of plane surface, acting in any direction. In calculating the wind pressure on circular tanks or stacks this pressure shall be assumed to act on six-tenths of the projected area. Where it shall appear to the Building Inspector that a building or structure will be exposed to the full force of the wind throughout its entire height and width the pressure upon all vertical surfaces thus exposed shall be taken at not less than twenty pounds per square foot.

1808. LIVE LOADS TO BE POSTED.

The live loads for which each floor or parts thereof of a commercial or industrial building is designed shall be certified by the Building Inspector, and durable metal signs shall be supplied by the owner and conspicuously posted in that part of each storey where they shall apply. The occupant of the building shall be responsible for keeping the actual loads below the certified limits.

1809. OCCUPANCY PERMITS.

Plans of building for industrial or commercial occupancy filed with the Building Inspector with application for permits shall show in each drawing the live loads per square foot of area covered for which the building is designed, and buildings hereafter erected shall not be occupied until the floor load signs required by Section 1808 hereof have been installed.

1810. WEIGHTS OF MATERIALS.

The following unit weights shall be assumed for computing dead loads:

	Pounds per cubic foot
Brickwork, solid.....	120
Concrete, plain or reinforced.....	150
Cinder concrete.....	84
Douglas fir, cypress.....	36
Oak, yellow pine, maple, birch.....	48
Spruce, hemlock.....	30
Plaster and mortar.....	96

Other materials and equipment entering into the dead load of the building shall be taken at their unit weights as determined.

CHAPTER 19.

DWELLINGS.

- 1901.** EQUIVALENT OR BETTER CONSTRUCTION PERMITTED
- 1902.** EXCAVATIONS.
- 1903.** FOOTINGS.
- 1904.** CONCRETE.
- 1905.** HEIGHT OF CELLAR.
- 1906.** BASEMENTS OR CELLARS.
- 1907.** TIMBERS.
- 1908.** JOISTS.
- 1909.** BRIDGING.
- 1910.** ROUGH FLOORING.
- 1911.** EXTERIOR FRAME WALL CONSTRUCTION.
- 1912.** ROOFS AND EAVES.
- 1913.** MASONRY WALLS.
- 1914.** WINDOWS.
- 1915.** WATER CLOSET COMPARTMENTS.

For chimneys see Chapter 29.

For cellar floors and catch basins see Section 709.

For weeping drains see Section 712.

For studding see Sections 801, 802 and 805.

For beam filling see Section 804.

1901. EQUIVALENT OR BETTER CONSTRUCTION PERMITTED.

Construction differing from the following provided for in this chapter may be used provided that in the opinion of the Building Inspector it is equivalent to or better than the following and is approved by him.

1902. EXCAVATIONS.

Excavations for basement or cellar walls of dwellings shall be at least twelve inches longer on each side than the outside dimensions of such walls. Where, however, the side of the excavation is used in place of outside wood cribbing it shall be incumbent upon the owner or contractor to notify the Building Inspector when the forms are set and before the concrete is poured in order that an inspection may be made.

1903. FOOTINGS.

Where a wooden post is used, part of the footing at least equal to the sectional area of the post shall extend two inches above the finished floor.

Footings shall comply with the requirements of Section 707 of Chapter 7.

1904. CONCRETE.

(a) All concrete shall be in volumetric proportions of at least one part of Portland cement to seven parts of aggregate.

(b) Materials, mixing, forms and centering, protection and depositing of concrete shall comply with the provisions of Chapter 14.

1905. HEIGHT OF CELLAR.

No cellar shall be necessary but if a cellar is constructed, the underside of the first floor joists must be at least 7 feet above the surface of the finished basement or cellar floor.

1906. BASEMENTS OR CELLARS.

(a) **AREA.** Basements or cellars within the First and Second Class Fire Limits shall have an area of at least one hundred square feet exclusive of the area required for stairway.

(b) **STAIRS.** The width of treads of the stair to the basement or cellar shall not be less than the height of the risers, the risers shall not be more than eight inches in height.

(c) **WALLS.** The thickness of basement or cellar walls shall be as follows:

Concrete.....	8 in.
Brick.....	8 in.
Stone.....	16 in.

1907. TIMBERS.

All timbers shall be of suitable dimensions, kind and quality for the various purposes for which they are intended.

Where two beams are joined at the top of a post they shall have suitable bearing and be tied longitudinally.

1908. JOISTS.

All trimmer and header joists shall be doubled. All floor joists carrying partitions shall be doubled and all partitions parallel to the joists shall rest on joists or girt pieces of the same dimensions as joists cut in between adjacent joists and spaced two feet apart. In the latter instance the joists on which girts are supported shall be not more than twelve inches apart.

1909. BRIDGING.

Floor joists spanning ten to sixteen feet shall have one row of bridging. Bridging shall be placed in longer spans so that the distance between rows shall not exceed eight feet. Bridging shall be at least two inches by two inches.

1910. ROUGH FLOORING.

All ground floor joists shall be covered with one inch boards and these covered with one ply of building paper before the finished floor is laid.

1911. EXTERIOR FRAME WALL CONSTRUCTION.

(a) On the outside of the studding shall be nailed boards or shiplap extending up to make close fit with the roof boards. Over this entire area shall be placed paper, and over this again one ply of tar paper. The paper joints shall be lapped at least three inches. The paper shall be carefully fitted around all windows, doors, cornices, and at all eaves. Stucco or siding shall then be applied.

(b) The building paper and tar paper shall be single ply, weighing twelve and seven pounds per hundred square feet respectively, or equivalent as approved by the Building Inspector.

1912. ROOFS AND EAVES.

Roof rafters may be spaced at two feet centres except where they form ceilings, in which case they shall be not more than sixteen inch centres. Boards

or shi lap shall be nailed on top of rafters and completely covering this shall be placed one ply of tar paper weighing at least seven pounds per hundred square feet. See also Chapter 35.

Eaves shall be at least 18 in. from the property line.

1913. MASONRY WALLS.

All exterior walls shall be carried up and built tight to the underside of the roof boards.

1914. WINDOWS.

Windows shall be provided in every habitable room as required in Section 2005.

1915. WATER CLOSET COMPARTMENTS.

All water closet compartments in dwellings shall be provided with light by a window, in an external wall, of an area of at least three square feet, and such window shall be made to readily open. Provided, however, that an auxiliary water closet may be placed in the basement of an existing dwelling without such window if the floor of the basement is constructed of concrete or other non-absorbing material, and the water closet compartment is partitioned off from the floor to the ceiling and provided with adequate ventilation and electric light.

CHAPTER 20.

**APARTMENT BLOCKS, HOTELS, LODGING HOUSES
AND PRIVATE HOSPITALS.**

- 2001.** PETITION AND SPECIAL PERMITS TO BE OBTAINED.
- 2002.** CONSTRUCTION.
- 2003.** OPEN SPACES.
- 2004.** STOREY HEIGHTS.
- 2005.** WINDOWS.
- 2006.** MINIMUM SIZE OF ROOMS.
- 2007.** EXIT DOORS.
- 2008.** LIGHTING.
- 2009.** EXIT LIGHTS.
- 2010.** FIRE ALARMS.
- 2011.** GARBAGE.
- 2012.** CONVERSION OF EXISTING BUILDINGS TO APARTMENT
BLOCKS, LODGING HOUSES OR PRIVATE HOSPITALS.
- 2013.** HEATING.
- 2014.** LOCKER ROOMS.

For masonry walls see Chapter 9.

For fire limits dealing with the material constituting the external and party walls, the roof covering and the cornices of buildings located within certain defined areas of the City see Chapter 35.

For definition of terms; maximum height of buildings; materials used; type of construction; loads; means of egress; elevator and stairway enclosures; roofs; removals; repairs; and alterations, etc., see Chapter dealing with same.

For fire walls and fire division walls see Chapter 28.

2001. PETITION AND SPECIAL PERMITS TO BE OBTAINED.

No building proposed to be constructed under the sections of this chapter shall be erected in any residential district unless the written consent of at least two-thirds of the assessed owners of the land in the "block" in which the erection is proposed is first obtained. The word block in this instance shall mean the property fronting upon streets or avenues in accordance with diagrams attached to this By-law, and forming part thereof. (See also Sec. 103) and definition of word "block."

Further, the consent of at least two-thirds of such property owners, once given, shall refer only to the occupancy and use of the property concerned under that sanction; any change of occupancy or use for any purpose other than residential shall automatically cancel such sanction. A new petition on the above two-thirds basis shall be required for any business purpose or change of occupancy or use other than residential.

2002. CONSTRUCTION.

(a) If frame construction be used no building shall be more than two storeys high, nor exceed eighteen hundred square feet in area, nor be erected nearer to an adjoining property line than four feet.

(b) If ordinary construction be used no building shall be more than three storeys high, nor exceed twenty-five hundred square feet in ground area. This area, however, may be increased by 75 per cent. provided that each

suite is divided from the corridors, stairways and adjoining suites by partitions of not less than 2 in. x 4 in. studs, spaced not farther apart than 12 in. on centres and covered on both sides with metal lath and plaster; such partitions shall rest directly upon double joists or on top of the partitions places beneath any beam filled with masonry.

The area may be still further increased at the discretion of the Building Inspector provided that the building is completely divided by interior masonry walls at intervals of not more than fifty feet.

(c) If mill construction be used for an apartment block the restrictions applicable to ordinary construction must be complied with and the building shall not exceed four storeys in height.

(d) Any apartment block over four storeys in height must be of fire-resisting construction. For the purpose of this section a storey shall be deemed any space which is capable of being occupied for living purposes, storage, offices or for any other purpose, between any floor and the ceiling or roof immediately above.

2003. OPEN SPACES.

(a) The enclosing walls of habitable rooms, containing windows, facing private property, shall not be erected nearer to the property boundary line than a distance of two inches for every foot of height of the wall containing such windows, and the open space so formed shall in no case be less than six feet wide, and shall be connected to the adjoining street or lane by a passage not less than three feet wide. If the open space is carried its required width to a street or lane, the distance between wall and property line may be reduced to one and three-quarter inches per foot of height, but in no case shall such open space be less than five feet wide.

(b) For an open space within the area of the building the above dimensions shall be doubled for both the open space and passageway.

(c) If balconies or stairs are constructed in such open space, the area required for same shall be in addition to that stated above.

(d) If the first storey, or first and second storeys are required for business purposes, the building may cover the entire lot provided the above conditions are complied with for any portion of the building used for residential purposes above such business premises.

(See also Section 2601 (c).)

(e) No wall of an apartment block shall be built less than eighteen feet from the centre of any public lane.

2004. STOREY HEIGHTS.

The height of any storey shall be at least eight feet in the clear, except in attics, where one-half of any habitable room may be less than eight feet but at no point less than four feet in height.

2005. WINDOWS.

(a) Every habitable room shall contain one or more windows opening upon a street, yard, or court, the area of said windows shall be at least eight per cent. of the floor area, and at least one sash shall be movable.

(b) Every kitchenette, bathroom or water closet compartment shall have a window with a movable sash in an external wall, or an approved system of ventilation.

2006. MINIMUM SIZE OF ROOMS.

Every habitable room shall have an area of at least seventy square feet except that there shall be one room in every suite having an area of at least one hundred and twenty square feet.

2007. EXIT DOORS.

All exit doors in apartment blocks either existing or hereafter erected where there are more than ten suites or more than thirty habitable rooms shall open outward. In other cases they may open inward but in every case the distance at the landing between the foot of the stair and the door opening shall be equal to the sum of the widths of the stair and door.

2008. LIGHTING.

All storage and locker rooms, water closet compartments, laundries, and corridors of the building shall be adequately lighted with electric light.

2009. EXIT LIGHTS.

In every such building there shall be a light at the head and at the foot of each flight of stairs in each storey, and in every building three storeys or more in height, a red light over each doorway leading from any hall, or corridor to a fire escape, shall be provided. All such lights shall be kept burning between sunset and sunrise, and shall be on circuits separate and distinct from circuits supplying current to any other part of the building.

2010. FIRE ALARMS.

(a) There shall be installed and maintained in every rooming house containing 10 or more rooms one or more gongs or alarms capable of being heard distinctly throughout the building to give notice to the inmates in case of fire. Such gongs shall be electrically controlled and be operated by means of a switch or switches on each storey including the basement. There shall be signs at each switch to indicate the purpose for which it is intended and the manner in which it is operated. Further, there shall also be placed at each switch the following sign: "This alarm is only local, in case of Fire Phone Fire Department 'M1197' or operate nearest Fire Alarm Box, Located -----" with the location of the said Fire Alarm Box inserted therein.

(b) The entire alarm system and apparatus must be installed in accordance with the Wiring By-laws of the City.

(c) This section shall apply not only to new buildings but to apartment houses or blocks heretofore erected, and to hotels and lodging houses heretofore erected which contain more than ten bedrooms.

2011. GARBAGE.

In all hospitals, hotels and business buildings or apartment houses which shall be over three storeys in height, an approved garbage or refuse destructor shall be provided and used for the destruction of such garbage or refuse, as is not properly collectable by the City Garbage Collection Department or its contractors for such work.

Such incinerator shall be of fire-proof construction with fire-proof flue which flue shall be distinct and separate from all other flues in the building. A suitable grating shall be provided at the top of such flue so as to prevent burnt or burning paper, etc., from passing therefrom. In each case the type, workmanship and installation of same shall be to the satisfaction of the Building Inspector.

In all buildings and barns provision shall be left on the site for the reception of garbage cans, manure bins, etc., so that there shall be no trespass on city property.

In all hospitals, hotels, business buildings, apartment blocks, or lodging houses where suitable incinerators are not installed in accordance with section 2011 of this By-law, proper garbage chutes or garbage containers shall be

provided by the owner to the satisfaction of the Medical Officer of Health such chutes or garbage containers shall be fireproof.

2012. CONVERSION OF EXISTING BUILDINGS TO APARTMENT BLOCKS, LODGING HOUSES, OR PRIVATE HOSPITALS.

(a) No building of frame construction over two storeys in height or of ordinary construction shall be used as or converted into an apartment block, lodging house, or private hospital.

(b) The number of habitable rooms on the third storey shall not exceed eight.

(c) Where the building is three storeys in height an alternate means of egress must be provided from the second and third storeys. (See Chapter 27.)

(d) No building shall be converted to allow of any habitable room of less than 70 square feet in area.

(e) Every habitable room shall contain one or more windows opening on a street, yard or court, the area of which shall be not less than eight per cent. of the floor area and at least one sash shall be movable.

(f) Every bathroom or water closet compartment shall have a window with a movable sash in an external wall or an approved system of ventilation.

(g) All corridors, stairways and water closet compartments shall be lighted with electric light.

(h) Where gas heating appliances are used they shall be provided with efficiently operating ventilating flues.

2013. HEATING.

(a) Any building of more than four suites shall have every boiler or furnace room enclosed by masonry or concrete walls and its floor and ceiling shall be of fire-resisting construction. All doorways in the walls of the boiler room shall be equipped with approved fire-resisting doors.

(b) Hot air heating will be permitted only in buildings having four suites or less.

(c) All supply, return and exhaust pipes shall be properly encased with insulation where they pass through floors or near woodwork.

2014. LOCKER ROOMS.

No wooden partitions shall be used to separate locker rooms. Locker rooms shall have walls of masonry and ceilings of metal lath and plaster, of superior construction.

CHAPTER 21.

GARAGES.**2101. EXISTING BUILDINGS.****2102. PUBLIC GARAGES.****2103. PRIVATE GARAGES.****2104. STORAGE.**

For definition of terms see Chapter 2.

For fire limits see Chapter 35.

For fire-resisting construction see Chapter 16.

2101. EXISTING BUILDINGS.

No existing building shall be converted to be used as a public or private garage unless it complies with the regulations laid down in this By-law.

2102. PUBLIC GARAGES.

(a) Public garages of one storey in height constructed in the 2nd and 3rd class fire limits may be of frame construction and shall conform to the regulations governing the fire limits in which they are located. If constructed to a height greater than one storey they shall conform to the 1st class fire limit regulations.

Public garages constructed within the 1st class fire limits shall be of a fire-resisting construction provided that where they do not exceed two storeys in height the roof or supports may be of wood construction. Roof-covering materials shall comply with the provisions of Section 1701 of this By-law.

(b) Any opening through the enclosing walls other than directly to the external air shall have fire doors.

(c) The floors of public garages shall be made of concrete or other incombustible material.

(d) In all public garages, service stations, gasoline or battery stations, or other places whereby discharge into the sewers is or is liable to become a menace, a nuisance or otherwise undesirable, care shall be taken and arrangements made, which will entirely prevent sand, gravel, oil, gasoline, grease, alkalis, acids or cresote chemicals, or dangerous or explosive chemical combinations, cotton waste or lint, from entering the City's sewer or the connections thereto, wash racks, traps, sumps settling chambers, screens, filters or other approved features must be used in all cases, with satisfactory clean-out arrangements and the obligation to keep same in good working condition shall be required of the owners or his agent.

No grease pit shall be connected to the sewer system.

If it should be found that any of the above mentioned or other objectionable or dangerous substances enter the City's sewers or connections the City shall have the right, summarily to close or cut off the connection or sewer, serving the premises concerned, and to keep the same closed or cut off until the matter has been corrected by the owner or his agent, and the installation has been inspected by the City's Building Inspector, and permission given by him to again discharge into the City's sewer system.

2103. PRIVATE GARAGES.

All private garages shall be built to conform to the construction required in the Fire Limits in which they are built. Private garages shall not be built in units to accommodate more than two automobiles, with a fire wall. See Chapter 35).

2104. STORAGE.

A building used for storing automobile parts or automobiles which contain no fuel in the tanks shall be considered a warehouse.

CHAPTER 22.

PUBLIC BUILDINGS.

- 2201.** APPLICATION.
- 2202.** ACCOMMODATION, CAPACITY AND OCCUPANCY.
- 2203.** TYPE OF CONSTRUCTION.
- 2204.** CEILINGS.
- 2205.** EXIT FACILITIES, NUMBER AND LOCATION
- 2206.** HEATING.
- 2207.** FIRE ALARM SYSTEM IN HOSPITALS.

2201. APPLICATION.

This chapter shall include and apply to all public buildings as defined in Sub-section (83) of Section 201 hereof and other buildings not specifically covered by any other Chapter of this By-law in which an assemblage of persons is permitted to gather or congregate, except theatres, moving picture houses and hotels, and existing buildings not over three storeys in height used as or converted into private hospitals.

2202. ACCOMMODATION, CAPACITY AND OCCUPANCY.

The total capacity or accommodation for persons of any such building shall mean the aggregate of the capacities of the separate auditoriums, class rooms, assembly rooms, or other rooms contained in such building, provided however, that this aggregate may be reduced to such an extent as will make the total adopted a reasonable total simultaneous occupancy of the building. This reduction shall be subject to the approval of the Building Inspector whose decision thereon shall be final. This provision shall apply not only to the building as a whole but also to any portion or portions thereof.

2203. TYPE OF CONSTRUCTION.

(a) Notwithstanding the provisions of Chapter 35, every such building exceeding two storeys in height, or having a capacity of twelve hundred or more persons shall be erected of fire-resisting construction; also, no existing building not conforming to the requirements of this section shall be increased in height or in capacity beyond the limits above set forth, unless the entire building is made to comply with the requirements for fire-resisting construction. (See Chapter 16.) Provided, however, that in churches the roof may be supported on wooden trusses. Churches having a capacity of five hundred or less persons shall comply with the general requirements of this By-law in respect of the type of construction in accordance with their height and location.

(b) In every such building having a capacity of more than five hundred persons, the walls of all auditoriums shall be of brick or other equally fire-resisting material, except that the main entrance vestibule may be separated from the main auditorium by a frame or other light partition.

2204. CEILINGS.

If ceilings of auditoriums, assembly rooms, including ceilings under balconies or galleries, are plastered, any lathing used shall be metal.

2205. EXIT FACILITIES.

Number and Location. (See Sec. 2715).

2206. HEATING.

(a) Hot air furnaces, hot water or steam boilers shall be located in rooms of fire-resisting construction and the doors of such rooms shall be fire-resisting doors.

(b) Provided however, that in buildings one storey in height and having a capacity of not more than three hundred persons, hot air furnaces need not be enclosed as provided in sub-section (a) hereof, but the ceiling over such furnaces, shall be protected with asbestos board at least one-quarter of an inch in thickness, or cement or asbestos mortar on metal lath, and such protection shall extend at least four feet beyond each side of such furnace.

(c) A furnace or boiler room under the main entrance or main entrance vestibule or stairs leading from same is prohibited.

(d) All supply, return and exhaust pipes shall be properly encased with insulation where they pass through floors or near woodwork.

(e) Sub-sections (a) and (b) hereof shall apply to every building of the kind referred to in Section 2201 hereof whether heretofore or hereafter erected.

(f) Every furnace or boiler situated under the main entrance, or main entrance vestibule, or stairs leading therefrom in any existing building of the kind referred to in Section 2201 hereof shall be enclosed in a room of fire-resisting construction and the doors of such room shall be fire-resisting doors.

2207. FIRE ALARM SYSTEM IN HOSPITALS.

In all hospitals accommodating fifty or more patients there shall be installed a fire alarm system connected with the headquarters of the City Fire Alarm Telegraph; and the number and the location of the boxes in such building and the manner of their installation shall be determined and approved by the Chief of the Fire Department.

2301. TYPE OF CONSTRUCTION.

(a) Every theatre or building containing a theatre, with seating accommodation exceeding 500 persons, shall be of fire-resisting construction throughout its structure, and such portions thereof permitted by the building department to be of other than fire-resisting construction shall be so constructed as to be adequate for the accommodation of 500 persons or less, and shall be constructed in accordance with the general provisions of this By-law.

(b) Theatres with a seating accommodation of 500 persons or less, shall be constructed in accordance with the general provisions of this By-law, and shall also be supplied with adequate fire escapes, and shall be provided with fire-resisting construction throughout its structure, and such portions thereof permitted by the building department to be of other than fire-resisting construction shall be so constructed as to be adequate for the accommodation of 500 persons or less, and shall be constructed in accordance with the general provisions of this By-law.

(c) Every theatre or building containing a theatre, with seating accommodation exceeding 500 persons, shall be of fire-resisting construction throughout its structure, and such portions thereof permitted by the building department to be of other than fire-resisting construction shall be so constructed as to be adequate for the accommodation of 500 persons or less, and shall be constructed in accordance with the general provisions of this By-law.

(d) Every theatre or building containing a theatre, with seating accommodation exceeding 500 persons, shall be of fire-resisting construction throughout its structure, and such portions thereof permitted by the building department to be of other than fire-resisting construction shall be so constructed as to be adequate for the accommodation of 500 persons or less, and shall be constructed in accordance with the general provisions of this By-law.

(e) Every theatre or building containing a theatre, with seating accommodation exceeding 500 persons, shall be of fire-resisting construction throughout its structure, and such portions thereof permitted by the building department to be of other than fire-resisting construction shall be so constructed as to be adequate for the accommodation of 500 persons or less, and shall be constructed in accordance with the general provisions of this By-law.

2302. ENCLOSING OF AUDITORIUM.

(a) The auditorium shall be enclosed by walls of brick or other equal fire-resisting material, in which there shall be no openings except the exit and entrance doors, the provision openings and such openings as are necessary for ventilation, except that in moving picture theatres the front entrance

CHAPTER 23.

THEATRES AND MOVING PICTURE THEATRES.

- 2301.** TYPE OF CONSTRUCTION.
- 2302.** HAZARDOUS BUSINESSES.
- 2303.** ENCLOSING OF AUDITORIUM:
- 2304.** ENTRANCES AND EXITS.
- 2305.** SEATING.
- 2306.** STAGE SECTION.
- 2307.** WORKSHOPS, STORAGE AND PROPERTY ROOMS.
- 2308.** DRESSING ROOMS.
- 2309.** PROSCENIUM WALLS.
- 2310.** DOORWAYS IN PROSCENIUM WALLS.
- 2311.** PROSCENIUM CURTAINS.
- 2312.** SCENERY.
- 2313.** SKYLIGHTS OR VENTILATING SHAFTS OVER STAGE.
- 2314.** SPRINKLER SYSTEM.
- 2315.** HEATING.
- 2316.** PROJECTION ROOMS.
- 2317.** FIRE ALARM SYSTEM.
- 2318.** ATTENDANT REQUIRED.

For lighting of Theatres and Moving Picture Theatres see By-law No. 2192, "Electric Wiring."

For Stand Pipes see Chapter 24.

For Means of Egress, See Chapter 27.

For Masonry Walls, see Chapter 9.

For definition of Terms see Chapter 2.

2301. TYPE OF CONSTRUCTION.

(a) Every theatre, or building containing a theatre, with seating accommodation exceeding 500 persons, shall be of fire resisting construction throughout (See Chapter 16) except such portions thereof permitted by this Chapter to be of ordinary or frame construction.

(b) Theatres with a seating accommodation of 500 persons or less, may be constructed in accordance with the general provisions of this By-law, as called for by the fire district in which such theatres are located, but the provisions of this Chapter (23) shall also be complied with excepting item No. 2303 (a). Theatres with a seating accommodation of 500 persons or less, shall have the seating accommodation all on one floor and galleries shall not be permitted. The main floor must not be over 7 feet above grade at the main entrance. Such theatres if provided with galleries shall comply with item (a) above.

2302. HAZARDOUS BUSINESSES.

No portion of a building containing a theatre shall be used for any business classified as a high hazard occupancy in Section 2717 hereof.

2303. ENCLOSING OF AUDITORIUM.

(a) The auditorium shall be enclosed by walls of brick or other equally fire-resisting material, in which there shall be no openings except the exit and entrance doorways, the proscenium openings and such opening as are necessary for ventilation, except that in moving picture theatres the front entrance

vestibule may be cut off from the auditorium by a frame wall, if both sides of this frame wall are covered with plaster on metal lath, or with other approved incombustible material.

(b) If the walls of the auditorium are to be finished on the inside they shall be finished in fire-resisting construction.

(c) All vestibules, lobbies, corridors, foyers or passageways shall be cut off from any portion of the building not for the use of the audience, by walls of brick or other equally fire-resisting material.

2304. ENTRANCES AND EXITS.

(a) While an audience is in the building no entrance or exit door shall be fastened in any manner except by fastenings such that an applied pressure of twenty pounds acting upon the inside of such door will either unfasten or break the fastenings allowing the door to swing open to the full extent of the opening. There shall be no other fastenings such as bolts or hooks on any such doors at any time.

(b) All such entrance and exit doors shall be maintained at all times in an operating condition and must be kept clear of snow, ice and other obstructions.

(c) Movable signs, easels or other obstructions in the foyers, lobbies, halls, corridor, passageways or exits of any theatre are prohibited while an audience is in the theatre.

(d) No mirrors shall be so placed as to give the appearance of a doorway or exit, or corridor, nor shall there be any false doors or windows.

(e) For the auditorium and each gallery there shall be two independent systems of exit, one of which shall be the main entrance exit system and the other an auxiliary system. The aggregate width of each of these systems shall be in the ratio of twenty-two inches for each one hundred and twenty persons capable of being accommodated in such auditorium or gallery. Example of Door Width Requirements for entrance exit system and auxiliary system in theatre having a capacity of 1200 persons —

Width of opening for entrance—exit system; or auxiliary system;

$$\frac{1200 \times 22''}{100} = 264'' = 22' 0''$$

(f) For the auditorium and first gallery the main entrance exit system may lead to the main vestibule and the auxiliary system shall be equally divided on both sides of the building and located as approved by the Building Inspector.

(g) Where there are galleries above the first gallery the main entrance exit stairways leading to each such gallery shall be separated from the rest of the building by walls of brick or other equally fire-resisting material. No such stairway shall communicate in any way or manner with any floor other than that of the gallery to which it leads and that of the vestibule leading from it to the open air. The auxiliary systems shall be located as provided in the preceding sub-section.

(For minimum width of stairs see Section 2703 (j).)

(h) In theatres there shall be provided three exit doors from the stage side of the proscenium wall, one shall be located on each side of the stage, and one shall lead directly from underneath the stage to the external air.

(i) For exit lights see Section 2205 (h) and (i).

(j) The footlights shall not be less than two feet from the fireproof curtain line.

2305. SEATING.

(a) All seats except in boxes shall be securely fastened to the floor.

(b) Seats in boxes shall be limited in the ratio of one seat for every five square feet of floor area in such box, and no box shall contain more than

ten seats so confined that they cannot be pushed out of the box. Every box shall have direct access to an aisle.

(c) No seat shall have more than six seats intervening between it and nearest aisle.

(d) All seats shall be spaced not less than thirty-two inches from back to back.

(e) Where there are no arms between sittings in any seat, the seating accommodation of such shall be figured on the basis of one person to each twenty-two inches of length of seat.

(f) Platforming galleries formed to receive the seats shall be not more than twenty-one inches in height of risers or less than thirty-two inches in width of platform.

(g) No such platform shall be closer to the ceiling than eight feet.

2306. STAGE SECTION.

(a) The stage floor including the fly galleries shall be of fire-resisting construction throughout but that portion contained between the jams of the proscenium opening and extending from the proscenium wall to the rear wall of the stage may be of wood construction. That portion of the stage floor projecting beyond the proscenium wall into the auditorium may have its floor finished in wood provided there is no air space directly beneath the said finish.

(b) The girder or rigging loft may have a lattice metal floor capable of sustaining a live load of seventy-five pounds per square foot, and shall be readily accessible by metal stairs.

2307. WORKSHOPS, STORAGE AND PROPERTY ROOMS.

Workshops, storage, or property rooms are prohibited under the non-fire-resisting portion of the stage. They shall be separated from the stage by partitions of brick or concrete and all openings therein shall be protected on both sides of the wall by fire-resisting doors.

2308. DRESSING ROOMS.

Dressing rooms shall be constructed of fire-resisting construction throughout including partitions, floors and stairs. All doors in partitions separating them from the stage shall be fire-resisting doors.

2309. PROSCENIUM WALLS.

The proscenium wall shall be built of brick or concrete not less than twelve inches thick and shall extend at least four feet above the stage roof, or the auditorium roof if the latter be higher. Any windows in the structure above the auditorium which face over the roof on stage section when within 100 feet of the stage roof must be protected with wired glass windows in metal frames. Any steel girder over the proscenium opening shall be protected by fire resisting material at least four inches thick.

2310. DOORWAYS IN PROSCENIUM WALL.

Every doorway in the proscenium wall shall be protected by an approved automatic closing fire door located on the stage side of the wall.

2311. PROSCENIUM CURTAINS.

The proscenium opening shall be provided with a fire-resisting curtain built in conformity with the following specifications or their equivalent in efficiency when approved by the Building Inspector.

(See Building Code of National Board of Fire Underwriters.)

2312. SCENERY.

(a) All stage scenery, curtains and decorations made of combustible material, and all woodwork on or about the stage, shall be coated or saturated with an effective flame-proofing material.

(b) The stage shall at all times be kept clear of scenery and properties not in use.

2313. SKY LIGHTS OR VENTILATING SHAFTS OVER STAGE.

A sky light or ventilating shaft having an area of at least one-twentieth of the stage area shall be constructed in the roof over the stage. The sky light or damper shall be so constructed as to automatically open in case of fire.

2314. SPRINKLER SYSTEM.

(a) A system of approved automatic sprinklers shall be provided above the gridiron, under fly galleries, under stage, in all dressing rooms, carpenter and paint shops and property rooms. The system shall be supplied by a six-inch connection from street except where in the opinion of the Building Inspector a gravity or pressure tank shall be provided. A system of open sprinklers spaced not over five feet apart and connected with the stand pipe system shall be placed on the stage side of the proscenium opening so as to cover the asbestos curtain. The open sprinkler system shall be controlled by quick opening valves located at convenient points on both sides of the stage.

(b) The six-inch connection from City main may also be used by supply hand hose.

(c) Each system shall be provided with separate outside connections for the Fire Department.

2315. HEATING.

(a) Every boiler or furnace room shall be enclosed by masonry or concrete walls, and its floor and ceiling shall be constructed of fire-resisting construction. All doorways in the walls of the boiler rooms shall be equipped with fire-resisting doors.

(b) Hot air furnaces and floor registers for heating purposes are prohibited.

(c) All supply, return and exhaust pipes shall be properly encased with insulation where they pass through floors or near woodwork.

(d) Sub-section (a) hereof shall apply to every theatre and moving picture theatre whether heretofore or hereafter erected.

2316. PROJECTION ROOMS.

Projection rooms shall be of fire-resisting construction and shall conform to the regulations governing the erection operation and public safety of theatres and entertainment halls in the Province of Alberta, as set out in the Theatre Act of the Province of Alberta.

2317. FIRE ALARM SYSTEM.

In all buildings now or hereafter erected, or used for theatrical or operatic purposes or for public entertainments of any kind, where stage scenery and apparatus are used and there is accommodation for an audience of more than three hundred persons, there shall be installed a fire alarm system connected with the headquarters of the City Fire Alarm Telegraph, and the number and the location of the boxes in such building and the manner of their installation shall be determined and approved of by the Chief of the Fire Department. This is not intended to apply to schools, churches or other buildings which are used for occasional entertainment.

2318. ATTENDANT REQUIRED.

(a) All theatres including motion picture theatres shall employ a uniformed fireman who shall be on duty at every performance, who shall have full charge of all men detailed by the management for fire protection purposes and of all the fire extinguish apparatus. The said fireman shall be satisfactory and approved of by the Chief of the Fire Department.

CHAPTER 24.

STANDPIPES.

2401. FOR FIRE DEPARTMENT USE.

2402. ENGINE CONNECTIONS.

2403. OWNER MAY ATTACH HOSE.

2404. IN THEATRES.

2405. CHIEF TO APPROVE OF LOCATIONS.

2401. FOR FIRE DEPARTMENT USE.

(a) Every building hereafter erected to exceed five storeys or sixty-five feet in height shall be provided with one or more standpipes for fire department use, extending to four feet above the roof.

(b) One standpipe shall be placed within each smoke proof tower, or stairway enclosure which extends above the fifth storey. Each standpipe shall be securely anchored where required to carry the weight.

(c) Each standpipe shall consist of standard weight galvanized wrought iron, or steel pipe at least four inches internal diameter for buildings under one hundred and thirty feet in height. For buildings over one hundred and thirty feet in height the upper one hundred and thirty feet shall be not less than four inches in diameter, and the remainder of the standpipe shall be at least one size larger.

(d) At each floor above the first and not more than five feet above the floor, each standpipe shall be provided with a two and one-half inch connection fitted with a two and one-half inch brass or other approved valve which shall be threaded to fit the fire department hose and fitted with a suitable lugged cap of non-corrodible metal attached with a chain.

(e) Provided that where a building is equipped with an outside stairway or fire escape, an outside standpipe with a two and one-half inch outlet at each floor above the first floor, fitted with valve for fire department hose, shall be substituted for one of the inside standpipes.

2402. ENGINE CONNECTIONS.

(a) Each standpipe shall connect at its base with a pipe not smaller than the standpipe, which shall extend to the street or lane, and be provided on the outside of the building with an approved engine connection of brass or other approved non-corrodible metal, placed not less than eighteen inches above the sidewalk and having two two-and-one-half inch connections with Flapper Valves and couplings threaded to fit fire department hose. Each connection shall be fitted with a plug or cap, which may be of iron.

(b) If two or more inside standpipes are connected together at the base, and supplied through a single pipe, the size of such supply pipe and the number of engine connections required shall be determined by the Building Inspector.

2403. OWNER MAY ATTACH HOSE.

Nothing herein contained shall prevent the owner of a building from connecting a pump or tank to the standpipe lines and attaching hose to the standpipes, but in such cases a check valve shall be provided in the line to each engine connection and in the connection between the pump or tank and the standpipe lines; the hose connections shall be independent of the connec-

tions for the fire department use and the hose shall be so connected and placed as not to interfere with the free use of the fire department connections.

2404. IN THEATRES.

(a) In theatres and moving picture theatres one or more standpipes shall be provided, the number and locations to be determined by the Chief of the Fire Department. In theatres there shall be at least two standpipes, one on each side of the stage; each standpipe shall be at least two inches in diameter and shall be provided with fifty feet of one and one-half inch or larger cotton rubber lined hose with five-eighths inch or larger nozzle. The standpipe shall be supplied with water by a direct connection and the pipes supplying the standpipes shall depend on the number of standpipes supplied and determined by the Chief of the Fire Department.

(b) The hose shall be inspected and tested once a year under the direction of the Chief of the Fire Department, and any hose or other appliances found defective shall be replaced.

2405. CHIEF TO APPROVE OF LOCATIONS.

All standpipes, fittings, the location and arrangement of engine connections, etc., shall meet the approval of the Chief of the Fire Department, and all buildings six storeys and over shall have standpipes both inside and outside of the structure.

CHAPTER 25.

ELEVATOR ENCLOSURES.

2501. ELEVATOR ENCLOSURES.

2502. ELEVATOR AND STAIRWAY NOT ALLOWED IN SAME ENCLOSURE.

2503. FIRE DOORS.

2504. SKYLIGHTS.

2505. WINDOWS.

2506. DUMB WAITERS.

2507. VERTICAL SHAFTS.

See also Chapters on buildings themselves.

See also Chapters on materials used.

See also "Regulations Governing Installation, Operation and Maintenance of Freight and Passenger Elevators" issued under the Factories' Act of the Province of Alberta.

2501. ELEVATOR ENCLOSURES.

- (a) All elevators shall be enclosed.
- (b) In fire-resisting buildings the enclosures shall be constructed of masonry, concrete or other approved incombustible material.
- (c) If built of masonry or concrete it shall conform to the requirements of Chapter 9.
- (d) If the enclosure is supported by the floor system it shall be constructed as provided in Chapter 16.
- (e) In non-fire-resisting buildings the enclosures shall be at least of frame and plaster construction with metal lath, from the basement to the top storey, except that in mill construction of over two storeys in height the enclosure shall be of continuous brick or concrete construction.

2502. ELEVATOR AND STAIRWAY NOT ALLOWED IN SAME ENCLOSURE.

An elevator and stairway shall not be constructed within the same enclosure.

2503. FIRE DOORS.

Elevator enclosures shall be equipped with approved fire doors made to open from the outside by a key only. Automatic push button control elevators shall have electric or mechanical interlocks, and the doors of same may be operated from either side without a key.

2504. SKYLIGHTS.

A skylight shall be placed in the roof of every such enclosure, unless there are one or more windows in the highest storey or pent-house. Such skylights and windows shall be glazed with plain glass. (See Section 17.)

2505. WINDOWS.

Windows in the enclosures below the highest storey shall have wired glass set in metal frames, unless facing a street not less than fifty feet in width.

The location of any window in the highest storey of the enclosure or pent house shall be approved by the Building Inspector. (See Section 17.)

2506. DUMB WAITERS.

The provisions of Section 2501 hereof shall apply to the enclosures of dumb waiters, except those erected in private dwellings. (See Section 17.)

2507. VERTICAL SHAFTS.

(a) In vertical shafts for ventilation or light not open to the outer air the construction of the walls shall comply with the requirements of Section 2501 except that said construction in Section 2501 (e) need only be carried to the base of the shaft.

(b) All windows opening on to such shafts shall be of wire glass set in metal frames.

(c) The walls of shafts open to the outer air shall be considered as exterior walls and comply with the requirements for same.

CHAPTER 26.

STAIRWAY ENCLOSURES.

2601. STAIRWAY TO BE ENCLOSED.

2602. ENCLOSURES.

2603. FIRE-RESISTING DOORS.

2604. ENCLOSURES OPENING TO OUTSIDE AIR.

2605. WINDOWS.

See also Chapters on Buildings themselves.

See also Chapters on Materials used.

2601. STAIRWAYS TO BE ENCLOSED.

(a) In all buildings over two storeys in height, except as otherwise provided for by this By-law all stairways and other vertical openings be enclosed as specified in this Chapter throughout all storeys through the stairs or openings pass.

(b) Where stairways are built for ornamental or architectural effect they need only be enclosed above the floor of the second storey.

(c) Where retail business is conducted under single occupancy in first storey and also in the basement and second storey, or either of the a building in which the portion thereof above the storeys so used for business is used for other purposes, the stairways to serve this retail business need not be enclosed. Provided however that the ceiling of the upper storey of the store must be of fire-resisting construction (see Chapter 16) or an automatic sprinkler system must be provided on the upper storey of the building and the stairs to the storeys above the retail store must be enclosed as provided and must have a separate entrance from the street.

(d) Stairways in apartment blocks, hotels, and lodging houses not exceeding two storeys in height and in dwellings need not be enclosed.

(e) Stairways leading from the main vestibule or auditorium of a public building to a first gallery need not be enclosed.

2602. ENCLOSURES.

(a) In fire-resisting buildings the enclosures shall be constructed of masonry, concrete or other approved incombustible material.

(b) If built of masonry or concrete it shall conform to the requirements of Chapter 9.

(c) If the enclosure is supported by the floor system, it may be constructed of hollow tile or other approved material, plastering on both sides. The masonry surrounding fire doors for 18 in. all round shall be of solid masonry or concrete.

(d) In non-fire-resisting buildings the enclosure shall be at least of brick and plaster construction with metal lath, from the basement to the top storey except that in mill construction of over three storeys in height, the enclosure shall be of continuous brick or concrete construction, or other approved incombustible material.

(e) Stairway enclosures shall be so constructed that it shall not be necessary to pass out of the enclosure in going from the highest to the lowest storey of the building.

3. FIRE-RESISTING DOORS.

Access to stairways shall be obtained through doorways at least three feet wide, fitted with fire-resisting doors opening in the direction of exit travel. A clear wired glass panel not exceeding seven hundred and twenty inches in area may be provided in all doors opening into the stair enclosure.

4. ENCLOSURES OPENING TO OUTSIDE AIR.

The stairs shall discharge directly into a street or lane or into an open court leading thereto or into a corridor leading thereto, the enclosing walls which are constructed in a manner required for stairways.

5. WINDOWS.

Windows in the enclosures below the highest storey shall have wired glass in metal frames, unless facing street not less than fifty feet in width. Every window in the highest storey of the enclosures or pent house shall be glazed with plain glass and the location thereof shall be approved of by the Building Inspector.

CHAPTER 27.

MEANS OF EGRESS.

- 2701.** APPLICATION.
- 2702.** GENERAL REQUIREMENTS.
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2701. APPLICATION.

This Chapter applies to all buildings except dwellings and except otherwise provided for by this By-law.

(See also Chapter 23 respecting Theatres and Moving Picture Theatres)

2702. GENERAL REQUIREMENTS.

(a) All existing buildings over two storeys in height shall have at least two means of egress from each storey above the first storey.

(b) From every storey including the basement, of every building fire section except basements not used by the Public, there shall be at least two means of egress placed as remotely as practicable from each other.

(c) Apartment blocks shall have two independent means of egress from each floor, one of which may be a rear service stairway, but any window opening from inside stairways or corridors on to such service stairways, shall be of wired glass in metal frames and sash.

(d) Exits shall be so arranged that the maximum distance from any point to an exit shall not exceed two hundred feet.

2703. STAIRS.

(a) All stairs, platforms, landings, balconies, and corridors shall be designed for a live load of not less than one hundred pounds per square foot.

(b) There shall be no variation of the width of treads and height of risers in any flight. Where variation in height of risers in different flights is necessary on account of varying storey heights, such variation shall not exceed one-half inch.

(c) All stairs shall have solid risers and the risers shall not be more than seven and one-half inches, and the tread exclusive of the nosing not less than ten inches.

(d) The arrangement of treads in stairways known as winders is prohibited.

(e) Stairways and intermediate landings shall not decrease in width along the direction of exit travel.

(f) Where treads or landings are of slate, marble, stone or composition they shall be supported for their entire length and width by masonry or a solid steel plate at least one-eighth inch thick.

(g) In public buildings all stairs exceeding twelve feet in height shall have an intermediate landing. All landings shall be at least forty-four inches in length.

(h) The space beneath any stairway built wholly or in part of wood, shall be left either entirely open or completely enclosed without a door or other opening.

(i) Stairs shall preferably be located at the ends of corridors but in all cases access to the stairway shall be direct from the corridor without the necessity of passing through any private room or office.

(j) No stairway shall be less than one and one-half units in width, and in public buildings less than two units in width and all stairways shall be designed both as to their number and their width with relation to the use, number, construction and aggregate areas of the floors above them. (See also Section 2715.)

(k) Outside stairs above the third storey of any buildings are only permitted as an alternative means of egress when the conditions of Section 2710 (a) do not apply.

(l) All balconies and stairs outside the walls of all buildings shall be constructed of incombustible materials, the floors and treads being of open grids, except for apartment blocks, hotels and lodging houses three storeys or less in height. Such outside stairs shall extend to the ground or have an approved counter-balanced section. Counter-balance weights must be enclosed. Provided, however, that a ladder of suitable width for two persons may be provided for the 14 feet above the ground level instead of the counter-balanced section.

(m) Substantial guards shall be provided around balconies and on each side of the stair at least three feet six inches above the floor or treads.

2704. FIRE ESCAPES.

(a) On all buildings hereafter erected ladder type of fire escapes are not accepted as an alternate mode of egress.

(b) On the following existing buildings ladder type of fire escapes are prohibited:

(1) All public buildings where public halls or assembly rooms are located above the first storey.

(2) All apartment blocks, hotels and lodging houses over two storeys in height, except on lodging houses and buildings converted to be used as apartment blocks and having accommodation provided for less than six persons on the third floor of such buildings.

(3) Office buildings over three storeys in height.

(4) Factories and workshops over two storeys in height.

(c) Access to fire escapes and outside stairways in existing buildings shall be through doors, or windows not less in width than two feet six inches, or less in height than four feet, hung on their vertical axis and opening outward, provided, however, that in public buildings access to fire escapes shall be through fire resisting doors, and the frames, sash mullions of all windows adjacent to such fire escape shall be of fire-resisting material and glazed with wired glass.

(d) Within thirty days after being notified by the Building Inspector, the owner of any building referred to in sub-section (b) hereof, shall remove all ladder type of fire escapes and erect such outside or inside stairways in

locations approved by the Building Inspector and make such other changes as are necessary to comply with this Chapter.

(e) A ladder connection must be provided from the top balcony of fire escape to roof.

(f) It shall be unlawful under any circumstances to obstruct the stair or fire escapes or the approach thereto in any building.

(g) The lowest landing of a fire escape shall have a clearance of not less than 11 ft. and not more than 15 ft. from the ground.

2705. HANDRAILS.

(a) All stairways shall have strong handrails on both sides. Where stairways are built between walls the handrails shall be firmly secured to the walls about three inches distant therefrom.

(b) All stairways exceeding seven feet four inches in width shall be provided with one or more intermediate handrails so placed that the distance between any two handrails shall not exceed sixty-six inches.

2706. RAMPS.

(a) Wherever stairs are called for in this Chapter, ramps may be substituted.

(b) For down ramps one twenty-two inch unit of width shall be considered the equivalent of one and one-half units of stair width. For up ramps one unit of ramp width shall be considered the same as one unit of stair width.

(c) Ramps shall comply with all the requirements for stairways with regard to construction, enclosures, etc., in so far as applicable, except that handrails shall not be required.

(d) The slope of ramps shall not exceed one foot vertical to six feet horizontal.

2707. ESCALATORS.

(a) Escalators of the horizontal tread type and normally operated in the direction of exit travel when enclosed in accordance with the requirements of Chapter 26, will be accepted as a required means of egress to the extent of not more than twenty-five per cent of the exit capacity required for the portion of the building served by such escalators.

(b) Escalators may be unenclosed up to the second floor only and enclosed by wired glass in metal frames above the second floor, but in such cases they will not be considered as a required means of egress.

2708. DOORS.

(a) Doors shall not be less in width than the required width of aisles or corridors leading thereto.

(b) Doors shall not open directly on a flight of stairs but on a landing the length of which shall be at least equal to the width of the door.

(c) In all public buildings either existing or hereafter erected all exit doors, except of class rooms in schools, shall open in the direction of exit travel, and shall be so arranged as to be readily opened from the side of approach for egress without the use of a key.

(d) In a building in which there is a room for public assembly having accommodation for one hundred and fifty or more persons all exit doors to the room and building shall either have no fastenings or be equipped with approved fastenings such that if a pressure of twenty pounds be applied against any door it shall open to the full width of the opening.

(e) Every room having a capacity of sixty or more persons shall have at least two doors remote from each other leading to exits.

(f) Isolated exit doors shall not be less than three feet in width and doors in batteries shall not be less than one and one-half units. (See table below). No exit door shall exceed six feet in width.

(g) In public buildings all entrance and exit doors exceeding three feet in width shall be in two leaves.

(h) The exit capacity of doors shall be measured in accordance with the following table. Intermediate widths shall be rated as equal to the next narrower tabulated widths:

2'8"	door	Equals	1½	units
3'6"	"	"	2	"
4'4"	"	"	2½	"
5'2"	"	"	3	"
6'0"	"	"	3½	"

2709. REVOLVING DOORS.

(a) Revolving doors shall be one of two types, the automatic Panic-proof collapsible type or the Manually Operated collapsible type.

(b) The automatic Panic-proof collapsible type shall be so constructed that when pressure is applied in opposite directions by two adults, each against a different wing, each and every wing shall collapse in the direction of pressure, leaving a free and ample passage for egress on either side of the collapsed wings. To be considered as an automatic panic-proof collapsible revolving door, the collapsing must occur on the application of this undue pressure at the normal pushing points on the wings, and without the aid of signs or instructions to apply pressure to any particular point, or to manually operate any part of the mechanism.

(c) Where the degree of pressure for automatic collapsibility is adjustable it shall not be maintained to exceed a pressure of twenty pounds exerted against each of two opposite wings.

(d) The manually operated (non-automatic) collapsible type shall be so constructed that the wings may be folded together, leaving free passage each side, or at one side, when the folded wings are set to the side of the opening, this being accomplished by the hand operation of a spring or catch, releasing the spreader mechanism without the aid of tools.

(e) Where automatic panic-proof collapsible revolving doors are used, one such shall be allowed as equal to two units of required exits.

(f) Where manually operated collapsible revolving doors are used, one such door shall be allowed as equal to one-half of one unit of required exits.

(g) The diameter of both types of doors shall not be less than six feet six inches or more than seven feet inside the curved walls.

(h) No revolving doors shall have upper spreaders, fixed brackets or like devices for holding the wings apart or rigid, other than these supplied by the manufacturer, and collapsible as already described.

(i) All revolving door wings must be easily collapsible without the use of tools.

(j) Buildings in which revolving doors may be used are classed as follows for the purpose of this By-law:

(1) Class 1. Shall include churches, assembly halls, retail stores having a floor area of five thousand square feet or over, and other buildings designed to accommodate large assemblages of people.

(2) Class 2. Shall include bank and financial buildings; office buildings; retail stores having a floor area of less than five thousand square feet, clubs and other commercial or private buildings, not covered by Class 1.

(3) In Class 1 buildings, each group of entrance having revolving doors must also be equipped with swinging type of doors, opening out, equal to one-third the total number or required units of exit for the group.

(4) In Class 2 buildings, revolving doors only may be used as exits but must be of the automatic panic-proof collapsible type.

2710. SMOKE PROOF TOWERS.

(a) In buildings, five storeys or over in height, having the required number of enclosed fireproof stairways and their location approved by the Building Inspector, said stairways will be accepted in lieu of fire escape horizontal exits and smoke-proof towers when approved by the Building Inspector, but in Hotels, Apartment Houses and other buildings, five storeys or over in height, as required by the Building Inspector, Smoke-proof towers shall be provided in accordance with the following specifications:

(b) The treads, risers, and surface finish of landings of smoke-proof towers shall be of fire resisting construction. The hand rails may be of wood. All other construction shall be of fire resisting materials. Stairways shall be completely enclosed by brick or concrete walls, at least eight inches thick or by walls of other material having equivalent fire resistance. Enclosures shall extend from the sidewalk, court or yard level, to and above the roof to form a pent house. Approved wired glass windows for lighting purposes must be placed in the outside walls. In all other respects the provisions of Chapter 26 shall apply.

(c) Access shall be provided to the smoke-proof towers from every storey by outside balconies or vestibules only, constructed entirely of incombustible materials. Each vestibule or balcony shall be open to the outside air on at least one side and shall have an unobstructed width equal to at least the required exit width. Guards shall be of incombustible material at least three feet six inches high. All wall openings within ten feet, measured horizontally, of the entrance to the smoke-proof tower shall be provided with approved fire-resisting doors or stationary metal frame wired glass windows.

(d) Fire-resisting doors or windows shall be provided on openings leading on to balconies, where such openings are beyond the ten foot limit before mentioned, in all cases where in the opinion of the Building Inspector the same are required for safety.

2711. HORIZONTAL EXITS.

(a) A horizontal exit means one or more openings through or around a fire wall between two fire sections of a building, provided the fire sections comply with the following conditions:

(1) Both fire sections must be under the same occupancy.

(2) The doors between the fire sections must be incapable of being locked or obstructed.

(3) The floor area of one of the fire sections, if they be of the same size, or the smaller if they be not, must be sufficient to provide ten square feet per person of the combined capacity of both fire sections, excepting that if two smaller fire sections adjoin a larger one, the combined area of the two smaller sections need not be greater than sufficient to provide ten square feet per persons of the combined capacity of the three.

(b) One or more bridges connecting two buildings shall be deemed a horizontal exit provided the buildings comply with all of the above conditions laid down for fire sections.

(c) The minimum number of units of width required at any horizontal exit shall be determined by the following formula:

$$A = \frac{N}{60 F}$$

Where A is the number of units of width, N is the number of occupants permitted or estimated for such floor: F is the hazard of occupancy, for high hazard F=1; for moderate Hazard F=2; for low Hazard F=3.

(d) Where two sections of a building adjoin and are separated by a fire wall with openings protected by fire doors, one stairway, if situated so that it is accessible from either section without entering the other section and is enclosed in a smoke proof tower, may serve both sections.

(e) Bridges shall be at least forty-four inches wide, and constructed of fire-resisting material with solid floors, except that the floor may be constructed of three-inch plank. Guards shall be not less than three feet six inches high.

(f) Unless a bridge is enclosed or has solid sides at least six feet in height all wall openings below or within a distance of ten feet measured horizontally shall be protected by fire doors or metal frame wired glass windows.

2712. AISLES.

(a) The minimum width of any aisle shall be three feet in the clear where there are seats on both sides and two feet six inches where there are seats on one side only, and no aisles of such minimum width shall exceed twenty feet in length.

(b) The width of any longer aisle shall be greater than the minimum provided by sub-section (a) by three inches for every ten feet or part thereof that the length is in excess of twenty feet.

(c) Every aisle shall lead directly either to an exit or in the direction of exit travel to an aisle leading to an exit.

(d) Where an auxiliary exit system is required a cross aisle with a minimum width of three feet shall be provided leading as directly as possible to the exit or exits of this system.

(e) Subject to the requirement of the preceding sub-section the width of such cross aisle shall be equal to fifty per cent. of the aggregate required widths of all aisles leading thereinto where there are exits on both sides of the building, and equal to one hundred per cent. thereof where the exits are on one side only.

(f) All steps in aisles shall be the full width of the aisle. Risers shall be not more than nine inches in height; the treads not less than ten inches in width. Wherever the rise of the seat platform is four inches or less the floor of the aisle shall be made as a ramp.

(g) There shall be no steps or obstruction on aisles on the main floor or auditorium of theatres.

2713. ELEVATORS.

Elevators when enclosed in accordance with the requirements contained in Chapter 25, and when discharging at the first floor directly to the street, or into a fire-resisting corridor or passageway leading to the street, shall be deemed to be the equivalent of not more than ten per cent. of the required means of egress but shall not be regarded as one of the two required exits from a building or fire section.

2714. ARRANGEMENT OF AND ACCESS TO EXITS.

(a) All stairways that serve as required means of egress for the upper storey of a building over three storeys in height shall be continued at least one and one-half units in width to provide egress from the roof and shall lead to the street either directly or by way of a yard, court, corridor or vestibule of fire resisting construction. Such yard, court, corridor or vestibule shall have a minimum width at any point of not less than ninety per cent. of the aggregate required widths of all the exits discharging into it, and such corridor or vestibule shall not be less than seven feet in height. Any opening between the said corridor or vestibule and the first floor shall be protected by a fire-resisting door. In the case of smoke proof towers such corridors, if any, shall

not communicate with the first floor. No corridor or passageway shall be less in width than four feet in the clear.

(b) Exits and corridors shall be so arranged as to avoid as far as possible dead ends and pockets in which persons may be trapped. In all stair enclosures at the first floor level, the direction of egress to the street must be clearly indicated.

(c) Access from any storey of a building to a required means of egress shall be through a doorway, the door of which can not be locked except as provided in sub-section 2708 (d).

(d) A common place of entrance may serve for the main floor and first gallery of an auditorium, but if there is a second gallery a separate and distinct entrance shall be provided therefor.

(e) Stairs and other exits shall be so located that they are readily accessible and visible, or adequate signs shall be provided to indicate their location. In buildings occupied at night, except churches and Sunday schools, red lights shall be used to indicate the exits.

(f) It shall be unlawful under any circumstances to obstruct the stair or fire escapes or the approach thereto.

2715. EXIT FACILITIES (Number and Location):

(a) Every auditorium shall have at least two independent exits, one of which shall be at or near the end of the building opposite the main entrance exit.

(b) Every gallery or balcony having a capacity of one hundred persons or less shall have one stairway leading therefrom.

(c) Every gallery or balcony having a capacity more than one hundred persons and less than three hundred persons shall have two independent stairways as remote as possible from each other, but both stairways may lead into the main vestibule of the auditorium.

(d) Every gallery or balcony having a capacity of three hundred persons or more shall have in addition to a stair or stairs leading to the main vestibule one or more auxiliary exits located as remote as possible from the end of the building where the entrance-exit is located.

(e) In any such building every corridor shall have at least two exits as remote as possible from each other provided that if every assembly room or class room served by the corridor has an exit direct to the outside of the building, the corridor may have one exit only.

(f) All openings used for exit purposes shall have the words "Way Out" placed over them in red letters at least six inches high. On each floor where required proper signs and pointers "Way Out" shall be placed.

(g) In every building there shall be provided a light at the top and foot of each flight of stairs in each storey; and a red light over each doorway leading from any hall or corridor to a fire escape. All such lights shall be kept burning while the building is occupied between sunset and sunrise, and shall be on circuits separate and distinct from circuits supplying current to any other part of the building.

(h) Sub-sections (a), (b) and (c) hereof shall apply not only to new buildings but to every existing auditorium gallery and balcony as follows:

(1) Sub-section (a) shall apply to every existing auditorium having a capacity, including any balcony or gallery in connection therewith, of more than eighty persons.

(2) Subsection (b) shall apply to every existing gallery or balcony having a capacity of more than eighty and not more than three hundred persons.

(3) Sub-section (c) shall apply to every existing gallery or balcony having a capacity of more than three hundred persons.

2715A. CAPACITY OF EXITS.

(a) All aisles, corridors, stairs, doors, landings, balconies and vestibules for use in part or wholly as a means of egress shall be subject to the requirements of this section.

(b) The exit capacity shall be based upon the number of persons to be accommodated thereby, and shall be determined by the following formula:

$$A = \frac{N H}{B C D E F}$$

B.	Building Construction	Ordinary-----	B = 4
		Mill-----	B = 5
		Fire Resisting-----	B = 6
C.	Vertical Openings	All openings unenclosed-----	C = 3
		Enclosed stairways only-----	C = 6
		All openings enclosed-----	C = 8
D	Sprinklers	Unsprinklered-----	D = 1
		Sprinkled-----	D = 3
E.	Horizontal Exits	None-----	E = 2
		One-----	E = 3
		Two or more-----	E = 4
F.	Hazard of Occupancy	Low Hazard-----	F = 3
		Medium-----	F = 2
		High-----	F = 1

H = number of storeys above the first.

N = number of persons permitted on each floor above the first.

A = number of units of exit width.

The unit of exit width shall be twenty-two inches and one half unit shall be twelve inches. In the case of alterations to existing buildings the unit width may be taken as twenty inches.

In no case need A exceed $\frac{N}{10}$

(c) Exits from basement shall be calculated by the same formula, taking H = 3.

(d) The first floor exits shall be calculated by the following formula:

$$A = \frac{N}{60 F} \text{ where } A = \text{the number of units of doorway width;}$$

N = the number of persons on the first floor.

F = hazard of occupancy as given in sub-section (b) hereof. The exits specified in this sub-section are in addition to those required at the foot of stairways.

2716. CLASSIFICATION.

(a) Where the number of persons to be accommodated by the exit cannot be otherwise determined, such number of persons within any floor area shall be taken according to the use of such floor as one person for every:

(1) Fifteen square feet in dance halls, lodge rooms, and places of assembly except theatres and churches.

(2) Fifteen square feet in court rooms, restaurants and class rooms in schools and colleges. (When a school or college contains an assembly

hall it shall be assumed that the class rooms and assembly hall are occupied at the same time.)

(3) Twenty-five square feet in the first floor and sales basements stores and sixty-five square feet in basements not used for sales.

(4) Fifty square feet in work rooms.

(5) One hundred and fifty square feet in hospitals, apartment blocks, office buildings and hotels.

(6) Five hundred square feet in warehouses.

(b) In buildings used for various purposes the capacity of stairways immediately below any floor shall be computed by assuming N H in the formula equal to the total number of people to be accommodated on the floor and all floors above it.

2717. HAZARD OF OCCUPANCY.

(a) The hazard of occupancy of buildings shall be determined by the Building Inspector for the purpose of calculating required exit capacity.

(b) Where more than one occupancy is found in a building the highest hazard of occupancy if found on the lower floor shall govern.

(c) For determining the hazard of occupancy the following classification shall serve as a guide.

(1) "LOW HAZARD" occupancies are those having contents which do not ordinarily burn rapidly and are not likely to produce excessive smoke, poisonous fumes, or explosion. The following are examples of this class: schools, office buildings, hotels, hospitals, industrial properties with occupancies such as the manufacture or storage of asbestos, condensed and powdered milk, glass, leather (excluding boots and shoes, and japanning and enamelling) metals, tanneries (excluding japanning and enamelling) and canneries.

(2) "MODERATE HAZARDS" occupancies are those having contents liable to burn with moderate rapidity but from which neither poisonous fumes or explosions are to be feared, and include the following: stores and industrial properties with occupancies, such as packing houses, paper mills, bakeries, printing, book-binding, wood working (excluding dipping and varnishing), and the manufacturing or storage of bags, boots and shoes, cardboard, tobacco, clothing (woolen), cordage, furs.

(3) "HIGH HAZARD" occupancies are those having contents liable to burn with great rapidity or from which poisonous fumes or explosions may be expected. The following are examples: Dry cleaning, japanning or enamelling, manufacturing of artificial flowers, artificial leather, celluloid, cereals, chemicals, clothing (cotton), explosives, fireworks, matches, starch and varnish.

2718. MAINTENANCE.

(a) All aisles, stairways, corridors, exits or other means of ingress and egress, shall be kept free from chairs, extra seats or obstructions of any kind including draperies or curtains.

(b) All exit doors, outside balconies, stairways, and all open corridors and corridors leading thereto, shall be kept free of snow, ice or other obstructions.

(c) No person excepting ushers and other authorized officials shall loiter or stand in any aisle, corridor, foyer, lobby, passage-way or other space giving access or leading to an exit or entrance.

(d) At all times when any building or portion thereof to which this chapter refers is occupied by an audience, or assemblage of persons, and when such audience or assemblage has entirely vacated the building, it shall be satisfactorily lighted, and such lighting shall include all corridors, stairs, open courts, leading to or from the auditorium.

(e) At all times when any such building or portion thereof is occupied by an audience or assemblage of persons all exits and entrance doors shall be unlocked and unbolted except as provided in sub-section 2708 (d).

2719. LIGHTING.

Each stairway or other exit and the corridors appurtenant thereto shall be provided with an adequate system of lighting supplied by a circuit independent of the circuit supplying the balance of the building.

NOTE—For lighting in theatres and moving picture theatres see Electrical Wiring By-law No. 2192.

2720. GENERAL.

(a) In this section the term "Suite" means a series of intercommunicating rooms under one occupancy or a single room if under a separate occupancy.

(b) This section shall only apply to apartment blocks, hotels, lodging houses and office buildings over two storeys in height heretofore erected, but it shall not apply to any suite which is provided with two entirely separate and independent means of egress from the buildings.

(c) Each suite on any storey above the first, in every such building shall be provided with an exit from which there are two means of egress to the exterior of the building at ground level, so located or constructed that from any point in any hall or other passageway forming a necessary part of any such means of egress it is possible to reach either of two stairways leading downward without passing the other, or if on the first storey, either of two outside doors without passing the other, and in any case without passing any unenclosed lightwell, elevator shaft or other vertical opening.

(d) For the purpose of this section, no such light well, elevator shaft or other vertical opening shall be deemed to be enclosed unless every door opening thereon is self-closing.

(e) No self-closing door referred to in the preceding sub-section shall have affixed thereto any device or appliance by means of which such door may be propped or fastened open.

(f) No person shall at any time prop or fasten any such door so as to prevent self-closing.

(g) The owner of every such building and every janitor or other person in charge thereof shall see that no such self-closing door is propped or fastened open at any time and that the self-closing appliance on each door is kept in good working order.

(h) Provided that the Building Inspector may modify or vary the provisions of this section where, in his opinion under the special circumstances of the case, the variation or modification of the provisions would meet all the requirements of safety.

CHAPTER 28.

FIRE WALLS AND FIRE DIVISION WALLS.

- 2801.** WHERE AND WHEN REQUIRED.
2802. BRICK AND PLAIN CONCRETE FIRE WALLS.
2803. FIRE WALLS OF HOLLOW TILE, ETC.
2804. FIRE DIVISION WALLS.

2801. WHERE AND WHEN REQUIRED.

(a) Except as hereinafter provided the floor area of any one storey portion of any storey used for the sale of goods by retail shall not exceed any building of:

Frame construction.....	6,000 square feet.
Ordinary construction.....	12,000 " "
Mill construction.....	15,000 " "

(b) In buildings of non-fire-resisting construction the above areas may be increased 66 2-3 per centum when such buildings are completely equipped with approved automatic sprinkler system.

(c) Except as hereinafter provided the floor area of any one storey portion of a storey used for the sale of goods by retail of any building of fire-resisting construction shall not exceed twenty-five thousand square feet unless the building is completely equipped with an approved automatic sprinkler system.

(d) Where any floor or portion of a floor in any storey used for the sale of goods by retail exceeds in area the maximum allowed in the preceding sections for the type of construction of the building, such floor or portion of floor shall be divided by fire walls or fire division walls into fire sections so that no fire section shall exceed the maximum area allowed. All openings in such walls shall be protected by fire-resisting doors.

(e) All buildings erected in terraces or attached units intended for separate occupancy shall have fire walls so located that every two such units shall be separated from the rest by such walls, except that for walls of buildings intended for commercial purposes not over two storeys in height the thickness specified for residential buildings in Sections 2802 and 2803 hereof may apply and if not over one storey in height partitions of metal lath and plaster on wood studs may be used.

(f) Fire walls must be provided on the property line dividing two separate building sites.

2802. BRICK AND PLAIN CONCRETE FIRE WALLS.

(a) Solid brick or plain concrete fire walls shall not be less in thickness than required for exterior bearing walls of corresponding height, but in no case less than twelve inches, except that solid brick fire walls for buildings of residential occupancy shall be at least eight inches thick for the uppermost twenty feet of height and shall be at least twelve inches thick for the remainder; and except that plain concrete fire walls for such structures may be eight inches throughout. No eight-inch fire wall shall be broken in after its erection, for the insertion of structural members.

(For definition of fire and fire division walls see Chapter 2.)

(b) Party walls which function also as fire walls shall conform with the requirements for fire walls.

(c) A separation of at least four inches of solid masonry shall be provided in all fire and party walls between combustible members which may enter such walls from opposite sides.

(d) All fire walls must be not less than two feet above the roof at point of contact.

2803. FIRE WALLS OF HOLLOW TILE, CONCRETE BLOCK OR CONCRETE TILE, OR OF HOLLOW WALL CONSTRUCTION PROHIBITED.

Fire walls of hollow tile, concrete block, or concrete tile, or of hollow wall construction shall not be permitted.

2804. FIRE DIVISION WALLS.

Fire division walls of solid brick or plain concrete shall be at least eight inches thick. Fire division walls of reinforced concrete may be accepted with a minimum thickness of six inches. Fire division walls of hollow tile, or of concrete block or tile shall be at least twelve inches thick in every part.

CHAPTER 29.

CHIMNEYS FOR COAL, WOOD OR GAS FUEL.

- 2901.** SUPPORTS.
- 2902.** CORBELLING.
- 2903.** BONDING TO WALLS.
- 2904.** WALLS.
- 2905.** HEIGHTS.
- 2906.** FLUE OPENINGS.
- 2907.** FLUES.
- 2908.** CLEAN-OUTS.
- 2909.** FIREPLACES.
- 2910.** CUPOLAS OF FOUNDRIES.
- 2911.** METAL CHIMNEYS.
- 2912.** WOODWORK AROUND CHIMNEYS.
- 2913.** ISOLATED CHIMNEY STACKS.

2901. SUPPORTS.

(a) The foundations for chimneys, whether inside or outside of buildings, or whether connected with buildings or isolated therefrom, shall be designed and built in conformity with the provisions of Chapter 7.

(b) No chimney shall be supported upon any wood construction.

(See Section 3003, regarding metal smoke pipes passing through roofs.)

2902. CORBELLING.

In no case shall a chimney be corbelled out more than nine inches from the wall, and the corbelling shall not exceed one inch per course of brick. Corbelling of not more than four inches shall be permitted upon an eight inch wall, but corbelling shall not be permitted upon walls less than eight inches in thickness.

2903. BONDING TO WALLS.

All chimneys occurring in brick walls shall be properly bonded to such walls from bottom to top.

2904. WALLS.

(a) The walls of chimneys shall be built of brick or stone laid in cement or lime-cement mortar or concrete.

(b) All brick used in construction of chimneys shall be sound, hard burned clay brick or other approved brick of regular shape. Brick set on edge shall not be used in chimney construction.

(c) Brick chimneys shall not be constructed having walls less than four inches in thickness exclusive of lining, and they shall be lined from 1 foot below the thimble with vitrified clay or other approved flue lining.

(See Section 921, also Sections 108 and 109.)

(d) Concrete chimneys cast in place shall be suitably reinforced vertically and horizontally. The walls shall be at least 4 inches thick and shall be lined with fire clay or other approved flue lining.

(e) Concrete blocks of approved design may be used in chimney construction if approved by the Building Inspector.

(f) Stone may be sawn stone or square stone or rubble.

(g) Stone chimneys shall have walls at least 4 inches thicker than required for brick chimneys and shall have fire clay or other approved flue linings. Rubble stone chimney walls shall be not less than 12 inches thick.

(h) Hollow building tile shall not be used for the walls of chimneys.

(i) All flues over 12" x 12" shall have a minimum side wall of 8" brick and shall not require flue lining.

(j) All chimneys over 12" x 12" connected, with heating boilers shall be lined with fire brick from a point 2 feet below the thimble to a point 15 feet above same or more if required by Building Inspector.

2905. HEIGHTS.

Chimneys shall be built up to at least 4 feet above flat roofs and two feet above ridge or pitched roofs, or otherwise placed in the roof at the discretion of the Building Inspector. Chimneys to be braced where necessary.

2906. FLUE OPENINGS.

(a) No smoke pipe flue opening shall be of greater width than the width of the side of the flue to which it connects.

(b) All openings for smoke flues, vents or other connections shall be made by the mason while the chimney is being constructed. They shall be lined with vitrified clay, fire clay or suitable metal thimble securely set in wall with mortar, or intake may be cast in cement. In every case the lining must extend from face of plaster completely through the wall of the chimney but must not project beyond the inner surface of the flue lining.

2907. FLUES.

(a) No chimney shall be less than seven inches in its least lateral dimension.

(b) Flue linings shall be set up in advance of the brick-work, and laid end to end in cement mortar. Where two or more smoke flues are contained in the same chimney, the withe shall be either of brick or of concrete, or cement grout, not less than two inches thick, provided that every third withe shall be of brick.

(c) Joints in adjacent flue linings in the same chimney shall be offset at least seven inches. All joints or spaces between the flue lining and wall of chimney shall be filled with grout or mortar. No broken flue lining shall be used.

(d) All dwellings shall be provided with a brick or concrete block chimney for furnace and range the area to be not less than 50 sq. inches.

(e) Where light housekeeping gas ranges, gas fireplaces and heating stoves are installed, tile or other approved substance flues may be permitted. Size of the tile shall be adequate for satisfactory ventilation of appliances, but shall not be less than 12 sq. inches for ranges, and 7 sq. inches for radiants. Separate flues must be provided for each appliance and carried through roof. When carried through the roof the tile shall be carried to a sufficient height to avoid down drafts and must be provided with a suitable cap.

(f) Vitrified sewer tile will be considered a satisfactory material for tile flues but shall be erected with hub at top; with wire lath and plaster on both sides of tile flue, leaving a space of not less than four inches between tile and studding. Tile to be wired to wire lath to maintain its alignment. When other types of tile are used they shall be supported by studding on both sides, bedded in mortar over the entire length and the channel covered with metal lath.

2908. CLEAN-OUTS.

Every chimney must be provided with a metal clean-out located at the bottom thereof.

2909. FIREPLACES.

(a) The walls of fireplaces shall not be less than 8 inches thick, and if built of stone the minimum thickness shall be 12 inches. The backs of all fireplaces shall have an additional 2 inches of fire brick.

(b) All fireplaces and chimney breasts shall have trimmer arches or other approved fire-resisting construction supporting the hearths. The arches and hearths shall be at least 20 inches wide measured from the face of the chimney breast. The arches shall be of brick, stone or concrete not less than 4 inches thick. A flat stone or a reinforced concrete slab may be used to carry the hearth instead of an arch if it be properly supported and a suitable fill be provided between it and the hearth. The length of the trimmer arches and hearths shall be not less than 24 inches longer than the fireproof opening. Hearths shall be of brick, stone or concrete. Wood centering under a trimmer arch shall be removed after construction.

(c) No coal or wood burning heater shall be placed in a fireplace which does not conform to the foregoing requirements.

GAS FIREPLACES.

(d) Fireplaces, designed only for gas heaters, shall be fire-proofed with at least 2 inches of brick or concrete or other incombustible material and shall not be recessed more than 6 inches and shall have concrete hearth.

All false fireplaces and tile flues shall be left unconcealed until inspected and approved by the Building Inspector who shall make such requirements in regard to method of construction and workmanship as shall be necessary.

(e) All floor heaters and horizontal ducts for carrying away fumes and gas, smoke or other products of combustion, must be surrounded by a two inch air space and be enclosed by a fireproof wall at least five inches in thickness. Such installation must have a positive and constant circulation of fresh air beneath the floor.

(f) Fire Brick fireplaces, chimneys, flues and vents must be constructed in accordance with the requirements for the consumption of coal and wood as a fuel, of brick, concrete or other approved fireproof material and with a minimum connecting flue area of 12 square inches.

(g) It shall be unlawful for any gas company to install a gas service or continue a service in any building where gas is used as a fuel unless a certificate is obtained from the City Gas Inspector that the requirements of this By-law are complied with.

2910. CUPOLAS OF FOUNDRIES.

Cupolas of foundries shall extend at least ten feet above the highest point of the highest roof within a radius of sixty feet of such cupolas, and shall be covered on top with a heavy wire netting. No woodwork shall be placed within two feet of such cupola.

2911. METAL CHIMNEYS.

(a) All metal chimneys contained within buildings shall be enclosed in brick, tile, or concrete walls with an air space of at least three inches between the enclosing walls and the chimneys from bottom to top.

(b) All outside metal stacks shall be adequately anchored or guyed.

(c) The metal on steel chimneys contained within buildings shall not be less than the following:

For stacks under 22" ----- 12 gauge plate.

For stacks 22" over, but less than 30" ----- 10 gauge plate.

For stacks 30" or over, but less than 36" ----- 3-16 inch plate.

For stacks 36" or over ----- 1-4 inch plate.

The pitch of the rivets in the splices shall in no case be greater than 3".

(d) Cast iron bases shall be at least $\frac{1}{2}$ " thick. Where stacks pass through upper floors they shall be anchored at each floor, the anchorage being such as will permit of expansion in the stack:

2912. WOODWORK AROUND CHIMNEYS.

(a) No wooden beams, joists or rafters shall be placed within two inches of the outside face of chimney walls, including flues from and garbage destructors.

(b) No wooden mantel or other woodwork shall be placed within eight inches of the side, or within twelve inches of the top of any fireplace. No combustible summer-piece or fire-board shall be used.

2913. ISOLATED CHIMNEY STACKS.

(a) DESIGN.

(1) All isolated chimneys shall be so designed and constructed that the stress upon any part thereof, due to the weight of the stack itself, and to wind pressure, shall never exceed the limits provided in this By-law as the maximum safe stress for the material of which each is constructed. Every such chimney shall be provided with an iron ladder extending from bottom to top of such chimney.

(2) The design shall provide for the over-turning effect of a uniform wind pressure of not less than 25 lbs. per square foot on the area of the vertical projection of a circular or octagonal chimney.

(b) REINFORCED CONCRETE.

(1) Reinforcement shall be provided to resist temperature stresses, both circumferentially and vertically.

(2) Anchorage of the vertical bars in the foundation shall be provided to develop the full tensile strength of the vertical bars.

(3) The distance of the temperature reinforcement from the outside of the chimney wall shall be not greater than 3 inches nor less than 2 inches.

CHAPTER 30.

FIRE CONTAINERS, SMOKE PIPES, ASHES, SMOKE HOUSES, ETC.**3001. REQUIREMENTS WHEN DANGEROUS.****3002. BOILER AND FURNACE ROOMS.****3003. SMOKE PIPES.****3004. INSTALLATION OF STOVES.****3005. COOKING RANGES.****3006. PIPE HOLES.****3007. STORAGE OF ASHES.****3008. SMOKE HOUSES.**

For chimneys see Chapter 29.

3001. REQUIREMENTS WHEN DANGEROUS.

Every owner, occupant, or other person using a building in which any fireplace, hearth, oven, boiler, furnace, stove, steampipe, stove pipe, flue or place for keeping ashes, is deemed by the Building Inspector to be dangerous or liable to cause or promote fires, shall, upon receiving notification from the said Building Inspector so to do, immediately discontinue the use of the same or remove the same as may be ordered.

3002. BOILER AND FURNACE ROOMS.

Except as otherwise provided for in this By-law, wherever boilers, furnaces, ovens, coffee roasters, or other appliances in which fires are maintained, are set inside of any building the walls and floors of the rooms or compartments containing them, shall be protected in such a manner as will meet the approval of the Building Inspector and Chief of the Fire Department. The space between the top of every such appliance, and any wood ceiling construction shall be not less than three feet, and the underside of such wood ceiling construction, other than in dwellings and small retail stores, shall be protected for a distance of at least four feet beyond such appliance in every direction with a coating of plastering upon metallic lath or wire netting, or protection shall be provided by other means approved by the Building Inspector. The space between the protection and the floor or other boarding above, shall be properly sealed.

3003. SMOKE PIPES.

(a) All metallic chimney or smoke pipes passing through the roof or wall construction of any building must be properly insulated to the satisfaction of the Building Inspector.

3004. INSTALLATION OF STOVES.

Stoves, except electric or gas cooking stoves, located in any building shall be so placed as to provide a clear space of at least two feet between the top of every such stove, and any woodwork immediately above, and a clear space of at least twelve inches between any side of every such stove and any unprotected woodwork, and a space of at least six inches where the woodwork is protected by a bright metal shield so placed as to provide a clear air space between the shield and the woodwork. Every stove resting on a wood floor

shall have underneath such stove a metal plate on 1-8 inch asbestos sheet to protect the floor.

3005. COOKING RANGES.

(a) Cooking ranges, (except domestic ranges) candy furnaces, bake ovens, and similar appliances without legs, or with legs less than four inches high, placed on a combustible floor, shall have the floor protected with sheet metal or one-eighth inch asbestos, covered with two courses of four inch hollow tile or its equivalent, this in turn covered with three-sixteenth inch boiler iron ash plate or pan. Three courses of brick with the middle course laid on edge leaving ventilating spaces may be accepted in lieu of the two courses of tile.

(b) When the said appliances have legs leaving an air space of four inches or more between the bottom and the combustible floor, the protection shall be similar to the above except that one course of hollow tile or equivalent, or two courses of brick with the top course on edge may be used.

(c) Protection shall be required for appliances with legs eighteen inches or more in height as required in Section 3004.

(d) Ventilating spaces shall be continuous and open at the ends. The protection required by this section shall extend at least twelve inches beyond the furnace or appliance on all sides, but where solid fuel is used it shall extend at least twenty-four inches beyond the front.

3006. PIPE HOLES.

The occupant of any building shall not permit any pipe hole in a chimney in such building to remain open, but shall see that it is closed with a stopper or register of metal or other incombustible material.

3007. STORAGE OF ASHES.

No ash storage shall be constructed of other than incombustible material.

3008. SMOKE HOUSES.

All smoke houses shall be constructed throughout with incombustible material, having ventilators at or near the top of building. If any smoke house shall open into any other building, such openings shall be protected by fire-resisting doors or shutters.

CHAPTER 31.

MOVING BUILDING

- 3101.** PERMISSION TO CHANGE LOCATION.
- 3102.** LICENSE AND BOND REQUIRED FOR HOUSE MOVER.
- 3103.** PERMIT.
- 3104.** PROTECTION OF OVERHEAD WIRES.
- 3105.** HOUSE MOVING, WHEN PERMITTED.

3101. PERMISSION TO CHANGE LOCATION.

(a) It shall be unlawful to remove any building or part of a building from one site to another, unless the building is of such construction, or is so altered as to comply with the construction requirements of the new site in respect to Fire Limits. Where the removal is to a site of a higher Fire Limits' classification, and the building has to be altered to comply with the superior requirements of such classification, a building permit for the necessary alterations must be taken out at the same time as the removal permit, and such building must not be occupied or used until the alterations covered by the building permit are completed and the building conforms in all respects with the provisions of this bylaw.

(b) If it is desired to move a building from without the limits of the City to within the limits permission so to do must be obtained from the Building Inspector before permit will be issued for same. Plans of building must be filed with the Building Inspector with application for permission to move same:

3102. LICENSE AND BOND REQUIRED FOR HOUSE MOVER.

(a) Every person engaged in the business of house moving shall take out an annual license and shall pay therefor to the License Inspector of the City of Calgary an annual fee of \$5.00.

(b) No person except a licensed house mover shall remove any building within the limits of the City, and every such house mover shall annually before engaging in the said occupation, obtain a license therefor from the License Inspector of the City, and no such license shall be granted until the person applying therefor shall have given a bond in the sum of \$5,000.00 in an approved surety company conditioned among other things that the said house mover will pay any and all damages which may happen to any tree, pavement, street, sidewalk or bridge, or to any telegraph, telephone or other electric wire or pole whether the said injury be inflicted by the said house mover or his agents, employees or workmen, and conditioned also that the said house mover will indemnify and keep harmless the City of Calgary against all liabilities, claims, actions, loss, damages, judgments, costs and expenses which may accrue or may be suffered by it or by any person in consequence of the granting of any such permit or license or by reason of the moving of any building or the use of any street by any such house mover and conditioned further upon strict compliance of the said house mover with all the conditions of his license and his permit.

3103. PERMIT.

(1) Every licensed house mover shall, before removing a building, obtain in such instance, a permit therefor from the Building Inspector, the

fee for each such permit shall be the sum of one-half of one per cent of the assessed value of the building, with a minimum fee of \$2.00.

(2) Each such permit shall be approved and endorsed by the City Commissioners who shall, subject to an appeal to the City Council, have the right to refuse such a permit if in their discretion it would be against the public interest or convenience for such permit to be granted.

(3) Every permit shall state specifically the conditions upon which it is issued and shall prescribe the route to be adopted in the moving operation and the time limit for the said moving operation and the method and place of restoring or replacing any poles, wires or conduits that may require to be cut or temporarily moved to facilitate the operation of building moving.

3104. PROTECTION OF OVERHEAD WIRES.

(a) The cost of such removal and replacing any such poles, wires or conduits, shall be borne by the house mover and paid by him in cash prior to the issue of any permit.

(b) The permission in writing of the owner of any pole, wire or conduit shall be obtained by the applicant for a permit before any pole, wire, or conduit is removed, cut or replaced.

(c) No house mover shall break, cut, remove or interfere with any wire or wires, cable or appliances the property of any company or the City operating any system of telegraph, telephone, electric light, electric street railway or power. All necessary removing or cutting of wires necessitated by the removing of any building shall be done by the duly authorized workmen of the owners of such wires, and it shall be the duty of the city or any company wires are or are likely to be affected by any such moving being duly notified by the licensee as aforesaid, to have competent workmen in attendance to prevent accidents or injury to the public, both in the use of the streets and highways or otherwise and to prevent any damage to any building other than the buildings being removed.

3105. HOUSE MOVING, WHEN PERMITTED.

Permits to move buildings will not be granted when a building has been damaged to a greater extent than 50 per cent of its original value by wear and tear from the action of the elements, fire or otherwise.

CHAPTER 32.

MISCELLANEOUS.

- 3201.** DOORS AND WINDOWS.
- 3202.** AREA OF LOTS TO BE BUILT ON.
- 3203.** LOCATION AND SIZE OF LUMBER AND WOOD PILES.
- 3204.** LUMBER YARDS.
- 3205.** FENCES.
- 3206.** SANITARY ARRANGEMENTS (TEMPORARY).
- 3207.** DRAINAGE.

3201. DOORS AND WINDOWS.

(See Section 1606).

3202. AREA OF LOTS TO BE BUILT ON.

(a) Buildings may be erected on the rear of any lot on which there exists a dwelling, under the following conditions:

(1) The combined area of all buildings on one lot shall not exceed forty per cent. of the area of the lot, but in no case shall there be permitted more than one dwelling or portion thereof on any one registered parcel.

(2) The height of any such building shall not exceed one storey nor twelve feet if within twenty feet of a dwelling.

(3) The building must be so located that an uninterrupted passage-way at least 5½ feet in width, within the limits of the lot, shall be provided from the rear of the lot to the dwelling.

(4) In any conflict arising between the owners of property on the original survey of a block and the owner of a resubdivision in the same block, priority of right shall obtain in the case of the original subdivision, subject, however, to the provisions of this By-law.

(b) Not more than one dwelling shall be erected or placed upon one lot as shown on the existing registered plan.

(c) Every dwelling house or other erection to be occupied as a dwelling, shall be located so as to front and abut a public street, avenue, or right of way not being a lane; and no dwelling house or other erection to be occupied as a residence other than an addition to an existing building of such nature, shall be built on a lot on which a residence is already erected.

(d) Where the disposition of any lots has been changed from that shown on the original survey, no dwelling shall be erected on a site less than 4,500 sq. ft. in area nor of a less width than 37½ feet.

(e) Any new building site formed as the result of a change in the disposition of original lots shall be regarded as a lot for the purpose of subsections (a), (b) and (c) of this section.

3203. LOCATION AND SIZE OF LUMBER AND WOOD PILES.

No person shall collect or place or allow to be collected or placed within a distance of twenty-five feet of any wooden building belonging to any other person, any collection or pile of wood or other combustible material unless the said collection or pile is protected to the satisfaction of the Fire Chief.

3204. LUMBER YARDS.

(a) All lumber yards, wood yards, and all other places where inflammable material is to be stored shall be inspected by the Building Inspector or other

duly authorized officer with a view to enforcing compliance with the provisions of this By-law and the owners or occupiers shall be required to take such precautionary measures against fire as may be necessary and proper, but no lumber yards or wood yards shall be hereafter established within the first or second class fire limits of the City.

(b) No lumber shall be piled adjoining the street lines in such a manner as to constitute a menace to the public.

3205. FENCES.

(a) From and after the date of the passing of this By-law, no fence of any description whatsoever shall be erected or located between lots in the City of Calgary, of a height greater than six feet above the grade or level of the higher lot.

(b) Where any fence of a height greater than six feet above the grade or level of the higher lot has, at the date of the passing hereof, been erected or located between lots in the City of Calgary, then the owner of such fence shall within 60 days from the receipt of a notice in writing addressed to him by the Building Inspector requesting him so to do, reduce the height of his fence to the height permitted by this By-law.

3206. SANITARY ARRANGEMENTS (TEMPORARY).

Where ever building operations are carried on provisions must be made for the sanitary needs of the workmen. Such arrangements may be of a temporary character, but must be such as to cause no inconvenience or cause of complaint, and must satisfy the Sanitary Inspector of this City.

3207. DRAINAGE. (See 2102 (d).)

DRAINAGE

3202. SIGNS ON TOP OF BUILDINGS.

(a) No sign or advertising device shall be erected over or upon any building unless there is first obtained a permit to do so from the Building Inspector, and plans and specifications of the sign or advertising device and of the building on which it is to be erected and the method of support shall be furnished with the application for a permit.

(b) Before erection of any billboard, it shall be necessary to obtain a permit to do so from the Department of Buildings. A detail plan showing location, style and construction of board proposed to be erected shall be filed with the Department at the time of the application.

(c) Before any permit for the erection of a billboard or other sign shall be issued, the person applying for the said permit shall execute and file with the City Clerk a bond with good and sufficient sureties or other form of

CHAPTER 33.

SIGNS.

- 3301.** BILL BOARDS, ETC.
- 3302.** SIGNS ON TOP OF BUILDINGS.
- 3303.** SIGNS OVER SIDEWALKS.
- 3304.** MAINTENANCE.
- 3305.** SIGNS CONTRARY TO BY-LAW OR DANGEROUS.
- 3306.** ERECTION OF CLOTH BANNERS AND SIGNS.

3301. BILL BOARDS, ETC.

(a) Every billboard or advertising device, except steel skeleton signs on tops of buildings, shall be set back on the lot or building upon which it is located a distance equal to the vertical height of such billboard or advertising device.

(b) All signs erected over and upon buildings shall be of steel skeleton construction.

(c) No billboard or advertising device shall be erected on the ground to a greater height than twenty-five feet above the grade.

(d) Every billboard or advertising device exclusive of fences shall have a clear space or lattice work of at least two feet between the bottom of any such billboard or advertising device and the ground.

(e) Before any permit for the erection of a billboard or other sign shall be issued, the person applying for the said permit shall execute and file with the City Clerk a bond with good and sufficient sureties or other form of security, to be approved by the Mayor and the City Clerk, in a sum not less than five thousand dollars (\$5,000.00), and conditioned to save the City harmless from all claims, actions and damages of every kind which may accrue or may be suffered by any person by reason of the defective construction or maintenance of such billboard, or by reason of the negligent use and occupation thereof, which shall be maintained by the owner of said board until said board is removed.

(f) Billboards or other signs shall not be permitted in residential districts, except one church bulletin board not exceeding twelve square feet in area on any one site used for church purposes; or one sign board appertaining to the sale or rent of the real property on which it is situated, provided said sign board complies with the front and rear building line requirements herein as if it were a building.

3302. SIGNS ON TOP OF BUILDINGS.

(a) No sign or advertising device shall be erected over or upon any building unless there is first obtained a permit to do so from the Building Inspector, and plans and specifications of the sign or advertising device and of the building on which it is to be erected and the method of support shall be furnished with the application for a permit.

(b) Before erection of any billboard, it shall be necessary to obtain a permit so to do from the Department of Buildings. A detail plan showing location, style and construction of board proposed to be erected shall be filed with the Department at the time of the application.

(c) Before any permit for the erection of a billboard or other sign shall be issued, the person applying for the said permit shall execute and file with the City Clerk a bond with good and sufficient sureties or other form of

security, to be approved by the Mayor and the City Clerk, in a sum not less than five thousand dollars (\$5,000.00), and conditioned to save the City harmless from all claims, actions and damages of every kind which may accrue or may be suffered by any person by reason of the defective construction or maintenance of such billboard, or by reason of the negligent use and occupation thereof, which shall be maintained by the owner of said board until said board is removed.

3303. SIGNS OVER SIDEWALKS.

No unilluminated sign shall exceed two feet in height or extend over the sidewalk more than 3 feet, the bottom of such sign shall be at least 9 feet above the sidewalk grade.

3304. MAINTENANCE.

The owner of any billboard, sign or advertising device shall maintain same in a proper state of repair.

3305. SIGNS CONTRARY TO BY-LAW OR WHICH ARE DANGEROUS.

(a) Where any billboard, sign or advertising device does not comply with the provisions of the previous sections hereof or is in a defective or dangerous condition, the Inspector shall notify the owner, lessee or agent of the premises upon which such billboard, sign or advertising device is located to at once remove or repair such billboard, sign or advertising device.

(b) Upon receipt of such notice from the Building Inspector, the owner of such premises shall at once proceed to remove or repair such billboard, sign or advertising device. Provided that if the owner fails to remove or repair such billboard, sign or advertising device, the Building Inspector may remove the same. All costs incurred in connection therewith shall be borne by the owner or agent of the premises.

3306. ERECTING OF CLOTH BANNERS AND SIGNS.

No cotton or cloth sign banners or announcements shall be strung or placed across any street within the City along which trolley or high tension wires are placed; nor shall any such sign or banner be strung across any other street without a permit in writing being first obtained from the Inspector, approved by the City Commissioners and the consent of the owners of the building affected.

CHAPTER 34.

INFLAMMABLE LIQUIDS.

- 3401. APPLICATION.
- 3402. CLASSIFICATION OF INFLAMMABLE LIQUIDS.
- 3403. MANUFACTURED LIQUID COMMODITIES INCLUDED.
- 3404. PERMISSION OF BUILDING INSPECTOR REQUIRED.
- 3405. STORAGE IN PUBLIC BUILDINGS.
- 3406. MIXING PROHIBITED IN CERTAIN BUILDINGS.
- 3407. CONTAINERS
- 3408. STORAGE.
- 3409. UNDERGROUND TANKS IN GARAGES, ETC.
- 3410. CONSTRUCTION OF UNDERGROUND TANKS.
- 3411. FIRE EXTINGUISHER.
- 3412. OPENINGS IN ABOVE GROUND TANKS.
- 3413. ABOVE GROUND TANKS, LABELLED.
- 3414. MATERIAL AND CONSTRUCTION OF ABOVE GROUND TANKS.
- 3415. ABOVE GROUND TANKS TO BE ELECTRICALLY GROUNDING.
- 3416. TANK FOUNDATIONS.
- 3417. DYKES OR EMBANKMENTS.
- 3418. DISTANCE FROM STREET LINE.
- 3419. DISTANCE FROM ADJOINING PROPERTY LINE.
- 3420. CONSENT OF CITY COUNCIL REQUIRED.
- 3421. PIPING.
- 3422. VALVES.
- 3423. TANKS NOT TO BE CONNECTED TO SEWER.

3401. APPLICATION.

The provisions of this Chapter shall not apply to dry cleaning establishments, or to gasoline, benzine, or other inflammable liquids when contained in delivery tank wagons or the fuel tank of any motor vehicle, engine, vessel, boat, aeroplane or machine when such tank is permanently connected with the motor or engine it is designed to supply.

3402. CLASSIFICATION OF INFLAMMABLE LIQUIDS.

(a) For the purpose of this By-law, inflammable liquids are divided into three classes according to the flash point as follows:

Class 1. Liquids with a flash point at or below 25° Fah.

Class 2. Liquids with a flash point above 25° Fah. and below 70° Fah.

Class 3. Liquids with a flash point at or above 70° Fah. and below 187° Fah.

(b) Representative examples of the classes of inflammable liquids are:

Class 1. Ether, carbon bisulphide, gasoline, naphtha, benzol, collodion, hydrocarbon, liquefied petroleum gas, acetone.

Class 2. Alcohol, amyl acetate, toluol, ethyl acetate, methyl acetate, wood spirit.

Class 3. Kerosene, turpentine, fuel oil.

3403. MANUFACTURED LIQUID COMMODITIES INCLUDED.

Any manufactured liquid or fluid commodity, such as paint, varnish, dryer, cleaning solution and polishing liquid which contains inflammable

liquids shall be considered as inflammable liquid and shall be classed by Section 3402 according to the flash point of the mixture.

3404. PERMISSION OF BUILDING INSPECTOR REQUIRED

Permission of the Building Inspector shall be obtained:

(a) For the storage or handling of Class 1 liquids in excess of one quart in any dwelling and in excess of two gallons in any other building, or outside of any building.

(b) For the storage or handling of Class 2 liquids in excess of five gallons in any dwelling and in excess of ten gallons in any other building, or twenty-five gallons outside of any building.

(c) For the storage or handling of Class 3 liquids in excess of twenty-five gallons in any building or fifty gallons outside of any building except where otherwise permitted.

3405. STORAGE IN PUBLIC BUILDINGS.

No Class 1 liquid shall be kept or stored in any school, institution, or public building, except for demonstration, mechanical or medical purposes.

3406. MIXING PROHIBITED IN CERTAIN BUILDINGS.

The mixing, storing or handling of inflammable liquids for commercial purposes in open containers is prohibited in frame buildings, or in any building, the whole or a portion of which is used as a dwelling.

3407. CONTAINERS.

(a) In all cases where gasoline or benzine is kept or stored in quantities in excess of one quart and not exceeding two gallons, it shall be kept or stored in sealed containers or automatic self closing containers, and such containers or automatic self-closing containers, shall be painted with red paint.

(b) No vendor of gasoline or benzine shall sell or deliver to any person, gasoline or benzine in quantities in excess of one quart unless such gasoline or benzine is placed in containers described in the foregoing section, provided however, that this shall not prevent gasoline or benzine being delivered through a pump to an underground tank or to the tank of a motor driven vehicle.

(c) Gasoline or benzine shall not be carried or delivered into any building in open or uncovered containers.

3408. STORAGE.

(a) Except as otherwise permitted in this Chapter and subject to the provisions of Chapter 2, Class 1 liquids in excess of two gallons shall be kept or stored in tanks only as hereinafter described, provided however, that this shall not be construed to prevent the filling and temporary storing of drums in wholesale warehouses. The liquid shall be drawn from such tanks by means of pumps so constructed as to prevent leakage or spilling and so arranged as to control the amount of discharge and prevent leakage inside the building by any derangement of the apparatus.

(b) The wholesale storage of Class 1 inflammable liquids is prohibited in the First Class Fire Limits.

3409. UNDERGROUND TANKS IN GARAGES, ETC.

(a) Underground tanks in garages and at filling stations shall not exceed one thousand gallons capacity each, and not more than five tanks shall be placed at any one station or location. The aggregate capacity of tanks installed under any building shall not exceed two thousand gallons.

(b) Tanks shall be installed at a distance of at least seven feet from any property line, street line or lane.

(c) Tops of tanks shall not be less than three feet below the surface of the ground.

(d) When located under a building the top of tank shall be not less than two feet below the floor and the floor immediately above the tank shall be of reinforced concrete or other type of construction of equivalent fire resistance and strength to sustain any load that may be placed on same without injuring the tank.

(e) All tanks shall be tested and made to sustain a hydrostatic test at least double the pressure to which tanks may be subjected.

3410. CONSTRUCTION OF UNDERGROUND TANKS.

(a) Underground tanks shall be constructed of galvanized steel, basic open hearth steel or wrought iron. The minimum thickness of material of such tanks shall, for the different capacities thereof, be as specified and required in the following table:

Capacity of tank (Imperial Gallons)	Minimum Thickness
1 to 200	1/16 inch
201 to 470	5/64 inch
471 to 1,000	7/64 inch
1,001 to 4,000	3/16 inch
4,001 to 12,000	1/4 inch
12,001 to 20,000	5/16 inch
20,001 to 40,000	3/8 inch

(b) All joints of tanks shall be riveted and caulked, brazed, welded or made by some equally satisfactory process. All tanks shall be tight and sufficiently strong to bear without injury, the most severe strain to which they may be subjected in practice. Shells of tanks shall be properly reinforced where connections are made. All tanks shall be thoroughly coated on the outside with a rust preventative.

(c) All tanks shall be ventilated by a vent pipe not less than one inch in diameter which shall not pass through a building aboveground at any point and shall extend to a point at least twelve feet above the opening of the filling pipe. Such vent pipe shall end in a return bend and be screened with 40 by 40 brass mesh and must be a least five feet distant from any opening window or other opening in the building.

(d) Filling pipes shall terminate outside the building at least five feet from any door or window, and the opening shall be provided with a metal box or other approved device which shall be kept securely locked when not in use.

3411. FIRE EXTINGUISHER.

At least one hand fire extinguisher of an approved type shall be kept and maintained for use at each filling station adjacent to a gasoline pump or pumps.

3412. OPENINGS IN ABOVEGROUND TANKS.

Every tank shall be provided with an adequate vent pipe. Each aboveground tank over 1,000 gallons in capacity whether inside or outside of buildings, shall have all manholes, hand holes, vent openings and other openings, which may permit the escape of inflammable vapor, provided with a non-corrodible wire screen (preferably 40 by 40 mesh but not less than 30 by 30 mesh or its equivalent) so attached as to completely cover the opening and be protected against clogging. A safety valve shall be provided on all tanks

containing Class 1 and Class 2 liquids. The screens on openings may be made removable, but normally shall be kept attached.

3413. ABOVEGROUND TANKS, LABELLED.

Aboveground tanks for Class 1 and 2 liquids shall have painted conspicuously upon their sides, in letters at least 2 inches high, the wording "INFLAMMABLE—DANGEROUS."

3414. MATERIAL AND CONSTRUCTION OF ABOVE GROUND TANKS.

(a) Tanks (including tops) shall be constructed throughout of open hearth steel or of wrought iron of a thickness in accordance with the following requirements:

(1) Horizontal tanks over 1,100 gallons capacity. Tanks of this class shall be of such material and so constructed as to have a factor of safety of at least 2.5 with hydrostatic head figured with water. The minimum thickness of shell or head shall be three-sixteenths of an inch (No. 7 British Imperial Gauge.)

(2) Vertical tanks over 1,100 gallons capacity. Tanks of this class shall be of such material and so constructed as to have a factor of safety of at least 2.5. The minimum thickness of shell or bottom shall be three-sixteenths of an inch. The minimum thickness of roof shall be one-eighth of an inch.

(b) Tanks shall be riveted, welded or brazed, and shall be soldered, caulked or otherwise made tight in a mechanical and workmanlike manner, and if to be used with a pressure discharge system shall safely sustain a hydrostatic test at least double the pressure to which tank may be subjected. Top of tank shall be securely fastened to top ring, with joints of equal tightness to those between the rings. Tanks shall be covered with asphaltum or other non-rusting paint or coating. All pipe connection shall be made through flanges or metal reinforcements securely riveted, welded or bolted to the tank and shall be made thoroughly tight.

(c) Tanks shall be constructed entirely of metal including top, sides and the bottom; all openings shall be gas tight, except breather vent.

(d) No open tank shall be used.

3415. ABOVEGROUND TANKS TO BE ELECTRICALLY GROUNDED

All aboveground tanks shall be electrically grounded by resting directly on moist earth or otherwise electrically grounded to permanent moisture to the satisfaction of the Building Inspector. No insulated connection shall be permitted. Telephone poles or other projections liable to act as lightning discharge points shall be kept as far as practicable from tanks. All tank wagons or trucks shall be grounded by an approved method.

3416. TANK FOUNDATIONS.

Tanks more than one foot above the ground shall have foundation supports of non-combustible materials, except that wooden cushions may be used. No combustible material shall be permitted under or within ten feet of any aboveground outside storage tank.

3417. DYKES OR EMBANKMENTS.

Each aboveground tank for Class 1 and 2 liquids over 25,000 gallons capacity shall be protected by an embankment or dyke. Embankments or dykes shall be constructed of earthwork, clay core with cinder fill, masonry or concrete approved by the Building Inspector. Each dyke, when constructed of earthwork or clay core with cinder fill, shall have a capacity at least

one and one-half times that of the tank. When constructed of masonry or concrete, the dyke shall have a capacity at least equivalent to that of the tank. Earthwork embankments shall be firmly and compactly built of good earth from which stones and vegetable matter have been removed. Earthwork embankments shall have a flat section at the top of not less than three feet and shall have a slope not steeper than one and one-half feet horizontal to one foot vertical on both sides. Such tanks with capacities of not over 25,000 gallons each may be grouped and a dyke built around the group of tanks.

3418. DISTANCE FROM STREET LINE.

Aboveground storage tanks for Class 1 and 2 liquids shall be at least ten feet from street line and this distance shall be increased if in the opinion of the Building Inspector it is considered necessary or desirable, subject to the requirements of Section 3419.

3419. DISTANCE FROM ADJOINING PROPERTY LINE.

Aboveground storage tanks for Class 1 and 2 liquids of a capacity of 1,000 to 25,000 gallons shall be at least fifty feet distance from adjoining property line. Tanks of a capacity of 25,001 to 50,000 gallons shall be at least seventy feet distance from adjoining property line. Tanks of a capacity of more than 50,000 gallons shall be distant from the nearest property line not less than one-hundred feet. These distances shall apply to individual tanks.

3420. CONSENT OF CITY COUNCIL REQUIRED.

Before any such buildings, curb pumps, tanks, plant and equipment are built, constructed, or set up, the location thereof shall have been approved by resolution of the City Council.

3421. PIPING.

All piping and fittings used in systems for conveying inflammable liquids shall be of standard full weight wrought iron or steel with screw joints put together with litharge and glycerine.

3422. VALVES.

All drawing off pipes terminating inside of any building shall have valves at the discharge ends. When delivery is by gravity, pipes shall have valves of an approved type and in addition must have emergency valves. Where tanks are above ground there shall be a valve located near the tank in each pipe. Where two or more tanks are cross connected there shall be a valve near each tank in each cross connection. Pumps used for delivering to or taking supply from aboveground tanks shall be provided with valves on both suction and discharge side of pump, and with a check valve when delivering to tank.

3423. TANKS NOT TO BE CONNECTED TO SEWER.

(a) No tank for containing inflammable liquids or oils shall be connected directly or indirectly with any public or private sewer connected with the City's system, sewer connection or catch basin, and no person shall discharge or permit any inflammable liquid or oil whether by itself or in combination with any liquid or solid to be discharged or flow into any public sewer connection with the City's system, sewer connection or catch basin, river, stream or ditch.

(b) In addition to any other penalty, the sewer connection into which any such inflammable liquid or oil has been permitted by the owner or occupier to discharge or flow may be closed by the Building Inspector.

(For storage of Explosives see 4-5 George V., Chapter 31).

CHAPTER 35.

FIRE LIMITS AND REQUIREMENTS.

(For Locations see Appendix A)

3501. DIVISION OF THE CITY INTO FIRE LIMITS.

3502. FIRST CLASS FIRE LIMIT REQUIREMENTS.

3503. SECOND CLASS FIRE LIMIT REQUIREMENTS.

3504. THIRD CLASS FIRE LIMIT REQUIREMENTS.

For definition of terms see Chapter 2.

For maximum height of buildings see Chapter 5.

See also Chapters on buildings themselves and materials, and type of construction used.

Metal buildings or metal clad buildings to be used for business purposes require the permission of City Council. See Chapter 3.

3501. DIVISION OF THE CITY INTO FIRE LIMITS.

The areas of the City referred to in this By-law as first, second and third class fire limits respectively, shall be those portions of the City defined in Appendix "A" of this By-law.

3502. FIRST CLASS FIRE LIMIT REQUIREMENTS.

(a) No frame construction will be permitted in the First Class Fire Limits except as follows:

1st. Dwellings or alterations or additions thereto, provided they comply with 2nd Class fire limit construction.

2nd. Metal covered storage sheds with wooden studs having an area not exceeding three hundred square feet.

3rd. Wooden porches limited to one storey in height and not exceeding an area of one hundred square feet.

4th. Temporary wooden grand stands.

5th. Wooden cornices supported by wooden lookouts or brackets over storefronts or upon buildings not exceeding thirty-five feet in height.

(See also Section 1702.)

(b) The roofs of all buildings in the First Class Fire Limits shall be covered with incombustible material as specified in Section 1701.

(c) No lumber yard, wood yard or planing mill shall be established in the First Class Fire Limits.

(See Section 3408 (b) prohibiting the wholesale storage of inflammable liquids, Class 1, in First Class Fire Limits.)

3503. SECOND CLASS FIRE LIMIT REQUIREMENTS.

(a) No frame construction will be permitted in the Second Class Fire Limits except as follows:

1st. Veneered Buildings.

2nd. Stuccoed Buildings.

3rd. Metal Covered Buildings.

4th. Outhouses, wood sheds, or store houses not exceeding in area one hundred and sixty square feet and not exceeding one storey in height.

5th. Private garages.

(b) The roof of all buildings in the Second Class Fire Limits shall be covered with incombustible material as specified in Section 1701.

3504. THIRD CLASS FIRE LIMIT REQUIREMENTS.

(a) The following sections of this By-law shall apply to those portions of the City of Calgary situate within the Third Class Fire Limits.

(b) In the Third Class Fire Limits, wooden buildings may be erected subject to the following restrictions and regulations.

(c) In all wooden buildings hereafter erected or altered the chimney shall be solid brick, built up from the ground, and shall extend outside to three feet from the highest point of the roof.

(d) All chimneys must be built of brick, stone or similar fireproof material.

(e) In no case shall a chimney in the 1st, 2nd or 3rd Class Fire Limits rest upon a flooring of wood or timber construction, and every chimney not forming part of a wall shall rest upon the ground or other sufficient fireproof foundation. Brick work of all flues, without reference to the purpose for which they may be intended, must be laid with solid joints.

(f) In frame semi-detached dwellings, terraces or rows of dwellings, the party wall between such dwellings or tenements shall be of brick or concrete resting on a concrete footing. Such party wall shall extend to the underside of the roof boarding and from the front to the rear of the building, and shall have a minimum thickness of 8 inches.

No opening whatsoever shall be allowed in this wall.

CHAPTER 36.

TESTS.

- 3601.** ALL MATERIAL SUBJECT TO TEST.
- 3602.** SUPERVISION OF TESTS.
- 3603.** MATERIAL TESTING UNDER BY-LAW REQUIREMENTS.
- 3604.** MATERIAL NOT COVERED BY BY-LAW.
- 3605.** AUTHENTICATED TEST RECORDS.

3601. ALL MATERIAL SUBJECT TO TEST.

All structural material of any nature whatsoever which is to be used in the alteration, erection or construction of any building or structure to which this By-law applies or coming within the jurisdiction of the Building Inspector, shall be subject to such tests to determine its character and quality as the Building Inspector may direct. In all cases in which standard methods of testing any material have been developed, the Building Inspector shall specify one of such standard methods.

3602. SUPERVISION OF TESTS.

Such tests shall be made at the owner's cost, either under the direct supervision of the Building Inspector or any of his duly authorized assistants, or by an approved testing laboratory. Where they are made by the latter, certified copies of the results thereof shall be furnished to the Building Inspector.

3603. MATERIAL TESTING UNDER BY-LAW REQUIREMENTS.

In the case of any material as to which maximum allowable stresses are specified in this By-law, when the results of tests show that such material is below the standard prescribed herein, the Building Inspector may permit the use of such material in the construction of a building if in his opinion, guided by the results of such tests the building is so designed, or re-designed, or the loading of the floors of the building can be so controlled as to reduce the actual working stresses to the point of safety as specified in this By-law:

3604. MATERIALS NOT COVERED BY BY-LAW.

In the case of any material as to which allowable stresses are not specified in this By-law, the Building Inspector shall specify conditions for the use of such material. When the use of any such material is permitted, the conditions so specified by the Building Inspector shall, if possible, indicate minimum standard strength requirements and allowable working stresses for such material.

3605. AUTHENTICATED TEST RECORDS.

Certified copies of duly authenticated records of tests made upon any material, may be presented to the Building Inspector. If such records comply with the requirements of the test herein specified, he may accept them as conclusive.

CHAPTER 37. CONSTRUCTION OF DRY CLEANING ESTABLISHMENTS.

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- 3701.** ROOMS.
 - 3702.** WALLS.
 - 3703.** ROOF.
 - 3704.** FLOORS.
 - 3705.** DOORS.
 - 3706.** WINDOWS.
 - 3707.** DRAINAGE.
 - 3708.** VENTILATION.
 - 3709.** EQUIPMENT.
 - 3710.** HEATING.
 - 3711.** LIGHTING.
 - 3712.** FIRE PREVENTION.
 - 3713.** HUMIDIFIER.

3701. ROOMS.

(a) **EXISTING AND NEW ROOMS.** The provisions of this By-law shall apply to all rooms used, or to be used for dry cleaning or dry dyeing, provided, however, that where such rooms have been in actual use prior to the coming into force of this By-law, the City Council may relax the requirements of this section so far as it deems safe or just.

(b) **LOCATION OF ROOMS.** Each such room shall be located at least ten feet from the street or property line, except in cases where the wall abutting or adjacent to the street or property line is of standard brick or equivalent construction and is without openings except if approved by the Building Inspector. In no case shall more than two such walls be blank walls.

(c) **HEIGHT OF ROOMS.** Each such room shall consist of not more than one storey, which shall not be less than twelve feet in the clear from floor to ceiling. There shall be no basement or cellar or open space underneath the floor, nor shall the floor area exceed twenty-five hundred square feet.

3702. WALLS.

(a) All external enclosing walls enclosing such rooms as are used for dry cleaning, dry dyeing, drying, clarifying and refining shall be of brick, solid concrete or other incombustible approved material, the minimum thickness of which shall be thirteen inches, and the mortar used, if any, shall be cement mortar.

(b) Every dry cleaning or dry dyeing room shall be separated from the remainder of the building by a wall or walls having no openings other than those required for shafting used in operating the machines except by indirect properly ventilated approach having two automatic closing fire resisting doors of approved manufacture which shall be as remote as possible from each other and not opposite. Said wall or walls shall be 17 inches in thickness constructed of solid concrete or brick laid in cement mortar, or may be 13 inches thick if reinforced as specified in this By-law. At least two walls of the dry dyeing or dry cleaning room must be external walls.

(c) Drying rooms if under the same roof as the dry cleaning and dry dyeing rooms must be separated from such rooms by a fire resisting wall, the entrances to such drying room or rooms shall be provided with approved

self-closing fire resisting doors. Means for the ventilation of such drying rooms shall conform to the conditions provided in relation to dry cleaning and dry dyeing rooms, and the provisions for the presence of steam jets for fire extinguishment must be complied with. If the drying room be a separate building, it must conform in all respects of construction and equipment to the conditions named relative to dry cleaning and dry dyeing rooms as above described.

(d) All shafting necessary for the operation of the machines and apparatus shall enter the dry cleaning, dry dyeing and drying rooms through the smallest necessary openings in the walls. Such openings shall be at least ten feet above the floor and equipped with a stuffing box to make it vapor proof so as to prevent the propagation of flame or explosion through them.

3703. ROOFS.

(a) **TYPE OF ROOFS.** The roof over every room used for dry cleaning or dry dyeing purposes, and over every hall or corridor to which any door from any such room leads, shall be flat and constructed of fire resisting construction in accordance with the minimum requirements of the local Underwriters Association.

(b) **VENTILATION AND SKYLIGHTS.** If, due to local conditions it is desirable to vent possible explosions upwards, the roof shall be of light construction and of incombustible material, and skylights shall be provided, or such other arrangement for venting possible explosion, as may be approved by the Building Inspector. Skylights shall be used and shall have an area equal to one-tenth of the roof area and shall be constructed as follows:

Skylights shall be constructed of metal frame and sash and be provided with plain thin glass. Opening in the roof shall be protected on the underside by approved fire doors held open by chains with fusible links and so balanced that the doors will close automatically in case of fire; and in addition a wire screen of $\frac{1}{2}$ inch mesh or less shall be provided above the skylights.

3704. FLOORS.

The floors shall be constructed of incombustible material and laid not lower than the surface of the ground surrounding the walls.

3705. DOORS.

Doors shall be of approved fire resisting construction and design equal to the minimum standards required by the local Fire Underwriters Association. There shall be two exit doors from every dry cleaning room exceeding 150 square feet in area remote from each other and opening directly to the outside of the building. One exit door only shall be required for rooms having an area of 150 square feet or less.

3706. WINDOWS.

Windows shall be glazed with wired glass in metal frames. Any section of window which is used for ventilation must be hung to open outwards.

3707. DRAINAGE.

There shall be no direct connection with the drainage system of the building or with the sewer system from any dry cleaning room.

3708. VENTILATION.

An approved system of ventilation shall be provided in all dry cleaning and dry dyeing rooms of sufficient capacity to completely change the air in

such rooms at least every five minutes. The spiders, blades and casings of all exhaust fans shall be constructed of non-ferrous metal:

EQUIPMENT OF DRY CLEANING ESTABLISHMENTS

The regulations in this section, in respect to equipment, shall apply where dry cleaning or dry dyeing is carried on.

3709. EQUIPMENT.

(a) No gas or gasoline engine, steam generator, electrical dynamo or motor, fuses or starting equipment, heating or pressing device shall be located, maintained or used inside of the dry cleaning room or dry dyeing room or within a distance of ten feet from any door or other opening in the enclosing walls of a dry cleaning or dry dyeing room unless approved for installation in dry cleaning or dry dyeing rooms by the local board of Fire Underwriters.

(b) All shafting, pulleys, piping and metallic parts of machines shall be properly grounded by a least No. 10 copper insulated wire to a water pipe or other grounded device. This system of grounding shall be examined and tested by the owner at least once each week and shall be kept in good repair.

(c) All tables, racks, shelves and cupboards used for the hanging and storing of fabrics shall be of incombustible material.

3710. HEATING.

Heating shall be by steam or hot water only. Steam and hot water pipes and radiators for heating and drying purposes shall be at least one inch from all woodwork and shall be protected by substantial metal screens arranged so as to prevent combustible goods or materials from coming in contact with such pipes and radiators:

3711. LIGHTING.

The lighting shall be secured only by keyless socket incandescent electric lights, with globes or bulbs in vapor proof receptacles. All switches, cut offs and fuses in the installation or operation of such lights shall be located and operated from the outside of the room and the wiring shall be in rigid conduits.

3712. FIRE PREVENTION.

(a) Such rooms shall be provided with steam pipes located near the ceiling. In all such pipes there shall be at least two openings which shall point toward the ceiling. The steam supply for such pipes shall be continually available for service while the plant is in operation and shall be of sufficient capacity to completely fill the room space in less than one minute. Outside the building there shall be placed on the steam service line or lines a quick acting valve which shall be easily accessible for operation in case of fire, such valve shall be conspicuously marked "DANGEROUS". Steam pipes installation shall be subject to approval of the Building Inspector.

(b) One approved hand chemical extinguisher and a barrel of sand shall be provided for each two hundred square feet of floor space.

3713. HUMIDIFIER.

Such room shall be equipped with an approved humidifying system whereby the atmosphere will be humidified to at least fifty (50) per cent of saturation, and a reliable hygrometer shall be placed in the dry cleaning and dry dyeing rooms which will readily indicate the saturation of the atmosphere.

CHAPTER 38.

FEES FOR PERMITS.

- 3801. BUILDING PERMIT.**
3802. WATER PERMIT.
3803. TEMPORARY USE OF SIDEWALKS, STREETS, ETC.; PERMIT.
3804. HOUSE MOVING PERMIT.
3805. BILLBOARDS AND SIGNS, PERMIT.
3806. SIDEWALK AND OTHER SUBTERRANEAN AREAS, PERMIT.

The following fees shall be charged and collected by the Building Department of the City of Calgary for each permit issued in respect of the following viz:

3801. BUILDING PERMIT.

The following fees shall be charged and collected by the Building Department of the City of Calgary for each permit issued in respect of the following, viz: For a total valuation up to \$50.00, a charge of \$1.00. For a total valuation costing over \$50.00 and up to \$1,000.00, a \$2.00 fee will be charged. For permits in respect to buildings or alterations costing more than \$1,000.00, \$2.00 per thousand for the first \$20,000.00, and \$1.00 for each additional \$1,000.00 or portion thereof. For the inspection of buildings or alterations at the request of City Departments or private persons, a minimum charge of \$2.00 per inspection.

3802. WATER PERMIT.

Wherever an owner or his agent desires to erect, alter or repair any building and in doing so wishes to use water supplied by the City of Calgary, the rate for the use of such water will be as follows, payable by the applicant at the time of issuance of permit:

Brickwork, Per 1,000 bricks.....	15c
Plasterwork, Per 100 square yards.....	40c
Concrete, Per cubic yard.....	10c
Stonework, Per cord.....	25c
Hollow Tile, Per 100 cubic feet.....	20c

METERS.

On application, meters may be installed where the estimated cost of the building exceeds \$20,000.00, such estimate to be approved by the Building Inspector.

Where meters are used the following tariff will be charged in addition to the regular meter water rate.

Connecting meter at commencement of work and disconnecting same when work is finished, \$5.00.

METER RENTAL.

5-8 in. \$.75 per month or any part of a month.

1 in. 1.50 per month or any part of a month.

2 in. 2.50 per month or any part of a month.

The above charges will be supplemented by actual cost of piping water to the building in question.

3803. TEMPORARY USE OF SIDEWALKS, STREETS, ETC., PERMIT.

(a) In making application for the temporary use of any street, avenue, lane or sidewalk in addition to complying with all other provisions of this By-law the applicant shall pay to the Building Department of the City of Calgary the following rental charges for the use of such streets, avenues, lanes or sidewalks as well as conforming to the following requirements.

Rate per lineal foot of frontage used per month.....\$.25

Rate per lineal foot of frontage used per month after
expiry of time limit set in any permit..... 1.00

(b) Buildings being constructed, altered or repaired and requiring the use of any portion of a street, avenue, lane or sidewalk in connection therewith shall be allowed the use of same at the schedule rates for a period of time calculated on the basis of one month for each storey constructed or altered or repaired. For the purpose of this section a basement shall be considered as a storey. The width of and portion of any street, avenue, lane or sidewalk necessary for use in connection with the construction, alteration or repairing of any building shall be decided by the Building Inspector.

(c) In case the street, avenue, lane or sidewalk is damaged during the construction, alteration or repairing of any building the owner of the land upon which the building is being constructed, altered or repaired shall be responsible for such damage if such damage results within one year after the completion of the work and the owner shall pay to the City the cost of having the said street, avenue, lane or sidewalk repaired to the satisfaction of the City Engineer.

(d) Soil, gravel, manure or other material placed upon streets in connection with building operations shall be removed at the option of the City Engineer.

3804. HOUSE MOVING PERMIT.

For the removal of buildings a fee of one-half of one per cent of the assessed value of the building shall be charged, with a minimum fee of \$2.00.

3805. BILLBOARDS AND SIGNS, PERMIT FEE.

Billboards, 10 cents per lineal foot with a minimum of \$2.00 each

Signs per \$100.00 in value or portion thereof....\$1.00

3806 SIDEWALK AND OTHER SUBTERRANEAN AREAS, PERMIT.

In that district bounded as follows:

On the East by the property line on the East side of 2nd St. E.

On the South by the property line on the South side of 9th Ave.

On the West by the property line on the West side of 4th St. W.

On the North by the property line on the North side of 6th Avenue.

A fee of 25c per square foot per annum for the use of sidewalk and other subterranean areas shall be charged.

Outside of the above defined area a charge of 10 cents per square foot per annum.

CHAPTER 39.

BUILDING RESTRICTIONS AND REGULATIONS.

The following restrictions and regulations shall apply to all buildings erected on land sold by the City of Calgary:

Location.	Plan Number	Minimum Value of Building Allowable
Mount Royal.....	2112-AC, 179-R, 4453-L, 3845-O	\$7,000.00
South Mount Royal.....	7080-AJ, 304-V	5,000.00
Roxboro Place.....		4,500.00
Glencoe.....	1553-R	4,500.00
Rosevale.....	3452-W, 7170-AN, 7850-A.H.	4,500.00
Rideau.....	310-AK.	4,500.00
Elboya.....	6153-AC, 4078-U.	4,500.00
Sunalta.....	5700-AG, 5380-V from lane between 10th and 11 th Avenues South, except business districts on 14th Street W. and 17th Ave. W.	4,500.00
Rosedale.....	5299-T, 2187-V, 2895-AC, 4163-AG, except Lots on 16th Avenue N.W.	4,000.00
Crescent Heights.....	3946-N, 4456-R.	
Mount Pleasant.....	1332-N, 470-P.	{ Restricted as to one house on each fifty feet frontage except where the City owns and sells a parcel of smaller frontage.
Regal Terrace.....	470-P.	
Baumont.....	791-P.	
Balmoral.....	2129-O.	
Hounsfield Heights.....	5625-AC.	4,500.00
West Calgary.....	5536-R.	3,500.00
Glengarry.....	5661-O.	{ Blks. 1-2-3-4-13-14-15-16, Plan 5661-O, Sec. 7. All of Plan 6540-AK, Sec. 8.

The following restrictive clauses shall be placed on all Transfers and Agreements concerning the area named therein:

Subject to the following express covenants and conditions which are hereby made conditions precedent and of the essence of this Transfer or Agreement. For the said party of the second part in Agreements and in Transfers substitute the words "The Transferee hereinafter mentioned" for himself (herself), his (her) executors, administrators, successors and assigns hereby covenants with the party of the First Part.

1. That he (she) will not erect or cause or suffer or permit to be erected or placed on each fifty feet frontage of said land in Mount Royal, substitute "on each lot" more than one dwelling house and the said house shall be of neat design and shall be completed in a proper and workmanlike manner and the value of said dwelling house when erected shall not be less than (\$7,000.00) in Mount Royal, \$4,500.00 in Roxboro exclusive of the land or any stable or outbuilding.

2. That no house or other building shall be erected or placed on the said land within (25 ft. in Mount Royal, 20 ft. in Crescent Heights, 30 ft. in Roxboro) from the street or Avenue on the front of the said land and in Mount Royal 25 ft. from the rear of said lot.

3. That no building shall at any time be erected or used on the said land for manufacturing purposes, and no manufacture or work of an offensive, dangerous or noisy kind shall be carried on upon the same, nor shall anything be done which may be or become an annoyance or nuisance.

CHAPTER 40.

BUILDING SET BACKS.

4001. DISTANCE FROM STREET LINE ON CERTAIN STREETS.

4002. DISTANCE FROM STREET LINE.

4003. FRONTAGE AND SIDE RESTRICTIONS IN RESIDENTIAL DISTRICTS.

4004. FRONTAGE RESTRICTIONS FOR RESIDENCES IN BUSINESS DISTRICTS.

Distance of frame walls from lot line, see Sec. 806:

4001. DISTANCE FROM STREET LINE ON CERTAIN STREETS.

No building shall hereafter be erected or placed along that portion of First Street West in the City of Calgary, between Tenth and Eighteenth Avenues, also that portion of Seventeenth Avenue between First Street West and Fourteenth Street West, and that portion of 12th Avenue between Centre Street and the Elbow River, any part of which is not distant at least five feet from the street boundry of the said street or avenue.

4002. DISTANCE FROM STREET LINE.

(a) On that portion known as Sixteenth Avenue North, from 10th St. N. W. to Edmonton Trail, no building shall be erected within $4\frac{1}{2}$ ft. of present avenue line.

(b) "No building shall hereafter be erected or placed on either side of Fourth, Fifth or Sixth Avenues from Fourth St. East to Ninth St. W., on either side of Seventh Avenue from Fourth St. W., to Ninth St. West; on either side of Eighth Avenue, from Fourth St. West to Eleventh St. West; on either side of Twelfth Avenue from Centre Street to Fourteenth Street West., on either side of Thirteenth Avenue from First Street West to Fourth Street West, any part of which is not distant at least 7 feet from the nearest boundry of the said Avenue.

"No building shall hereafter be erected or placed on that portion of Seventeenth Avenue W., from Fourteenth Street W, to Fifteenth Street W, on the North side, nor on Lot 25, Block 224, Plan 5700-AG, Calgary, any part of which is not distant at least seven (7) feet from the North Boundry of the said Avenue."

"No building shall hereafter be erected or placed on either side of Fourth Street E., from Fourth Ave. to Ninth Ave.; on either side of Centre St., from Second Ave. to Seventh Ave., on either side of Fourth Street W., from Fourth Ave. to Sixth Ave; on the west side of Fourth St. W., from Sixth Ave. to Ninth Avenue; on either side of Eighth Street W., from Sixth Avenue to Ninth Avenue; on either side of Ninth Street W., from Fourth Avenue to Eighth Avenue; on the East side of Eleventh Street W., from Eighth Avenue, to Ninth Avenue; on the West side of Eleventh Street W., from the South end of the Armouries to Ninth Avenue; on either side of Eleventh Street W., from Tenth Avenue to Twelfth Avenue; on either side of Fourth Street W., from Eighth Avenue to Seventeenth Avenue; on either side of Eighth Street W., from Tenth Avenue to Seventeenth Avenue, on East side of Fourth Street W., from Sixth Avenue to Seventh Avenue, any part of which is not distant at least 5 ft. from the nearest boundry of the said street."

"No building shall hereafter be erected or placed on either side of Fourteenth Street W., from Ninth Avenue to Seventeenth Avenue, any part of which is not distant at least 5 ft. from the nearest boundry of the said street."

(c) "On that portion known as Centre St. N., from the intersection of Seventh Avenue N., to a point 125 feet S. of Sixteenth Avenue N., one hundred and twenty-five feet on both sides. No building or any part thereof shall be erected within twelve feet of the said street line and fifteen feet of the said Avenue line.

"In case of any resubdivision of the corner lots within the area described in sub-section (c) hereof, any building erected on the resubdivided portion facing on to the Avenues, shall be placed not less than twenty feet from the property lines of such Avenues

"From the West side of 4th Street N.W. to the East side of 10th Street N.W., on the South side of 16th Avenue N.W., all business buildings shall be set back a distance of 10 feet from the street line.

4003. FRONTAGE AND SIDE RESTRICTIONS IN RESIDENTIAL DISTRICTS.

No building shall be erected in the residential district unless the foundation and wall of such building is situated at least twenty feet from the street line. In case of lots being subdivided differently from the original plan as registered, the provision of this section shall apply to buildings constructed on such lots as sub-divided. Provided, however, that any building erected on a corner lot or lots shall be kept back twenty feet from the street or avenue on which other buildings front, which are or may be afterwards erected on the lots in the said block according to the original plan as registered. Provided, if the written consent of all the assessed property owners in the block where the erection is proposed is obtained, compliance with this section is not required. In the case of houses with verandahs twenty feet shall intervene between the frontage line of the property and the front wall of the verandah. (See definition of word "block".)

4004. FRONTAGE RESTRICTIONS FOR RESIDENCES IN BUSINESS DISTRICTS.

Where dwellings are erected in business districts the distance back from the front property line to the face of the house or the verandah shall be decided by the Building Inspector.

HEALTH AND SANITARY REQUIREMENTS

CHAPTER 41

- 4101. TEMPORARY TOILET ACCOMMODATION FOR WORKMEN.
- 4102. PUBLIC BUILDINGS TO HAVE ADEQUATE TOILET FACILITIES.
- 4103. FOX FARMS AND FARMS FOR FUR-BEARING ANIMALS.
- 4104. STABLES.
- 4105. PIGGERIES.
- 4106. FEED PENS AND CORRALS.

4101. TEMPORARY TOILET ACCOMMODATION FOR WORKMEN.

Before the construction of any building is proceeded with the contractor shall provide adequate toilet facilities for the use of the workmen employed on such building. Such accommodation shall be to the satisfaction of the Medical Officer of Health and, when not of the type connected with sewer and water mains, shall be discontinued as soon as it is possible to have the proper facilities in the building under construction put into proper working order.

4102. PUBLIC BUILDINGS TO HAVE ADEQUATE TOILET FACILITIES.

All public buildings shall be provided with adequate toilet facilities for the use of the employees and patrons of the building, including separate sets for each sex. Each compartment shall have separate approach thereto and at the entrance to each compartment shall be posted a clearly painted sign indicating the sex for which the toilet facilities are provided.

4103. FOX FARMS AND FARMS FOR FUR-BEARING ANIMALS.

No fox farm or farm for fur-bearing animals shall be established or maintained within the limits of the City of Calgary.

4104. STABLES.

No stable shall be erected within the first or second class fire limits of the city unless the written permission of the Medical Officer of Health has first been obtained. No building in the first or second class fire limits of the City not heretofore used as a stable shall be so used after the passing of this by-law unless the written permission of the Medical Officer of Health has first been obtained.

No stable shall be erected nearer than forty feet to any dwelling nor shall any existing building be so used if nearer than forty feet to any dwelling.

No stable shall be erected nor shall any existing building be used as a stable on any piece of ground less than three thousand square feet, unless the written consent of the Medical Officer of Health has first been obtained.

All stables shall have adequate ventilating facilities and shall have windows of an area equal to at least two square feet for each animal housed therein.

All stables for the housing of more than two horses or other cattle shall be provided with concrete floors properly drained and connected with sewer and water mains.

All stables shall have in connection therewith and provided by the owner, a proper manure bin constructed in such a manner and provided with

a close-fitting cover so that flies and other vermin will be excluded and rain and snow be prevented from entering the bin.

4105. PIGGERIES.

No piggery shall be established or maintained within the boundaries of the inner area of the City, as determined by the Public Utilities Commission. No piggery shall be established or maintained without the boundaries of the inner area of the City unless the written permission of the Medical Officer of Health has first been obtained and in no case shall any piggery be established nearer than nine hundred feet from any dwelling.

Provided that this section shall not apply to hogs being dealt with at any time at the Alberta Stockyards.

4106. FEED PENS AND CORRALS.

After the passing of this By-law no feed pens or corral for horses or cattle of any kind shall be established within the limits of the City unless the written permission of the Medical Officer of Health has first been obtained.

CHAPTER 42.

REFRIGERATING SYSTEMS.**INSTALLATION CODE FOR MULTIPLE REFRIGERATING SYSTEMS**

- 4201.** APPLICATION OF RULES.
- 4202.** MULTIPLE SYSTEM DEFINED.
- 4203.** INSPECTION AND APPROVAL.
- 4204.** CAPACITY LIMITATION.
- 4205.** REFRIGERANT LINES.
- 4206.** JOINTS.
- 4207.** VALVES AND FITTINGS.
- 4208.** SERVICE CONNECTIONS.
- 4209.** SAFETY FEATURES.
- 4210.** INSTRUCTIONS.
- 4211.** PLANT MAINTENANCE.

4201. APPLICATION OF RULES.

The following code is intended to apply to the installation of multiple refrigerating systems as herein defined.

4202. MULTIPLE SYSTEMS DEFINED.

The term "multiple refrigerating system" shall mean and include all systems in which the refrigerant from a common source is delivered to two or more separate cabinets each containing one or more evaporators.

4203. INSPECTIONS AND APPROVAL.

- (a) Multiple systems shall be of approved makes and patterns.
- (b) No multiple system shall be placed in operation until the complete installation has been tested by the installer in the presence of the authority enforcing this code. A certificate of approval shall be posted on the premises where the system is installed. Tests shall include a vacuum test of the complete piping system, preferably with the evaporators installed, but valves thereon may be closed to prevent withdrawal of the refrigerant; under this test a vacuum of 20 inches of mercury shall be placed upon the system and shall be held for a period of 20 minutes, with no detectable drop, after the pump has been stopped.
- (c) After the vacuum test, the system of piping shall be tested by application of pressure as indicated in the table below:

Refrigerant	Test Pressures	
	High Side Part Lbs. per sq. in.	Low Side Part Lbs. per sq. in.
Carbon dioxide.....	1,500	750
Ammonia.....	300	150
Methyl chloride.....	180	80
Suplhur dioxide.....	135	50
Iso-butane.....	130	50
Butane.....	75	35
Ethyl chloride.....	50	25
Methylene chloride.....	15	15

NOTE: It is suggested that test pressures be imposed by the use of carbon dioxide or nitrogen.

4204. CAPACITY LIMITATION.

(a) No multiple system shall contain more than 100 pounds of refrigerant.

(b) Compressors shall not be located under stairways or near dumb waiters or elevator shafts; shall be located as nearly beneath the riser as practicable; shall preferably not be in a room containing storage of combustible material; shall in any case be located at least 10 feet from such storage; shall be located in an accessible part of the building with adequate lighting facility provided; and shall be protected against mechanical injury by a non-combustible partition, or by heavy metal netting secured to two by four-inch wooden studding or to metal posts.

4205. REFRIGERANT LINES.

Refrigerant lines shall be installed in accordance with either of the following methods:

(a) Standard pipe for refrigerants requiring test pressure of 300 pounds or less, and extra heavy pipe for test pressures in excess of this figure:

(b) Approved annealed seamless copper tubing of not less than .034 inch wall thickness for diameters not exceeding five-eighths inch, and of corresponding greater wall thickness for larger diameters. Where this method is employed tubing shall be protected from mechanical injury as follows:

From the manifolds at the compressor tubing shall be installed in iron or steel pipe or other metal enclosure as specified below, with suitable metal boxes for the manifold and for all other valves except those at the evaporator. Flexible metal enclosures may be used at bends or at terminals if not exceeding 6 feet in length and rigidly fastened to connecting pipe and- or valve boxes. Each run of pipe shall be sealed or plugged at each junction box inlet with a material not affected by moisture or the temperature of the line. Enclosures shall be rigidly secured to the walls or other support. Tubing shall be independently supported in such a manner as to prevent excessive vibration and strains at joints and connections. Valves, service connections and joints in tubing shall be rigidly secured in suitable metal boxes at accessible points.

4206. JOINTS.

(a) Pipe joints shall have standard pipe threads and shall be made up with materials suited to the refrigerant employed.

(b) If flanged fittings are used for pipe connections they shall be of recessed gasket type.

(c) All joints in copper tubing shall be of sweated types, except that flared joints may be used for tubing not more than 5-8 inch in diameter and where the required test pressure does not exceed 180 pounds.

(d) All joints and tubing shall be accessible.

4207. VALVES AND FITTINGS.

(a) All valves and fittings on the high pressure side of the system shall be of the forged type; or castings of semi-steel may be used.

(b) Shut-off valves shall be installed at the following locations: At each service outlet in pressure and return lines, and in each riser or manifold connection at or near the compressor. These valves shall be fitted with a hand wheel or other means of ready operation as an integral part thereof.

(c) Valves in service connections shall be located outside of refrigerating unit and at such distance above the floor as will provide ready accessibility.

(d) Shut-off valves shall be installed in both connections to every evaporator in such a manner as to permit the removal of the evaporator with valves attached.

4208. SERVICE CONNECTIONS.

(a) Not more than a single tenant shall be supplied from an outlet box on a main riser. Such outlet box shall be located within the premises of the tenant served and so arranged as to be accessible at all times.

(b) No outlet or junction box shall be permitted in any hallway, stairway or vertical shaft not cut off at each storey. Elevator, dumb waiter or other shafts containing moving objects shall not be used for outlet or junction boxes, nor for tubing or piping carrying refrigerant.

(c) Every refrigerator shall be rigidly secured in place

4209. SAFETY FEATURES

(a) Each compressor drive shall be provided with a device which will automatically stop the compressor at a pressure not in excess of the test pressure as specified by Section 4203. This shall not apply to air-cooled machines, nor to water-cooled machines having a liquid receiver capacity of less than 12 pounds of refrigerant and which are so designed as not to permit a pressure in excess of the test pressure.

(b) Where ammonia or carbon dioxide are used every high pressure side or liquid receiver which can be shut off shall be equipped with a pressure relief device discharging into the low pressure side of the system or to the outside of the building. Where the relief from the high pressure side is into the low pressure side the latter shall be protected by a relief device discharging to the outside of the building or to a suitable absorber.

(c) Refrigerant piping or enclosure carrying refrigerant lines shall be conspicuously marked or labelled so as to plainly indicate its contents.

4210. INSTRUCTIONS.

(a) Printed instructions covering the operation and maintenance of the system and what to do in emergencies, shall be permanently posted at riser control valves.

(b) It is recommended that such instructions include a diagrammatic sketch of the system with the parts labelled for reference.

4211. PLANT MAINTENANCE.

Adequate maintenance of the plant must be faithfully observed and any lack in this direction will be regarded as a serious breach of this By-law. Installation shall be under the supervision of the Fire Chief.

CHAPTER 43.

**FILM STORAGE IN FILM EXCHANGES, HOSPITALS,
X-RAY ESTABLISHMENTS, ETC.****4301.**

Where Nitrocelulose films or other films of like nature are used or stored in the above or any other places, the regulations of the National Fire Prevention Association in respect to construction plans and storage methods shall apply as the same may be varied from time to time.

CHAPTER 44.

4401. REPEALING OF BY-LAWS.

By-law Number 1366 and all amending By-laws and any other By-law of the City of Calgary dealing with the subject matter of this By-law, shall be deemed to be repealed insofar as the said By-law or By-laws are inconsistent with this By-law.

Done and passed in Council assembled this 20th day of March, A.D. 1933.

A: DAVISON, *Mayor*

J: M: MILLER, *Clerk*.

APPENDIX "A"

FIRE LIMITS.

(Section 3501)

3501. FIRST CLASS FIRE LIMITS.

The First Class Fire Limits shall comprise the following defined areas in the City of Calgary, that is to say: All that portion of the City bounded as follows:

(a) Commencing at a point 125 feet West of 4th Street West, running Easterly along 5th Avenue to 2nd Street West, thence Northerly on 2nd Street West to 4th Avenue, thence Easterly on 4th Avenue to 1st Street East, thence Southerly on 1st Street East to 6th Avenue, thence Easterly on 6th Avenue, to 2nd Street East, thence Southerly on 2nd Street East to 7th Avenue thence Easterly on 7th Avenue to 6th Street East, thence Southerly on 6th Street East to 11th Avenue, thence Westerly on 11th Avenue to 2nd Street East, then Southerly on 2nd Street East to a point in the centre of the Block, thence Westerly along the centre line of the Blocks to Centre Street, thence Southerly on Centre Street to 13th Avenue, thence Westerly on 13th Avenue to 2nd Street West, thence Northerly on 2nd Street West to 12th Avenue, thence Westerly on 12th Avenue to 6th Street West, thence Northerly on 6th Street West to 11th Avenue, thence Westerly on 11th Avenue to 14th Street West, thence Northerly on 14th Street West to 10th Avenue, thence Easterly on 10th Avenue to 11th Street West, thence Northerly on 11th Street West to 8th Avenue, thence Easterly on 8th Avenue to 8th Street West, thence Northerly on 8th Street West to 7th Avenue, thence Easterly on 7th Avenue to a point 125 feet West of 4th Street West, thence Northerly to the point of commencement.

(b) On Centre Street— 125 feet on both sides of Centre Street running Northerly from 4th Avenue to 1st Avenue.

(c) On 1st Street West—125 feet on both sides of 1st Street West running Southerly from 13th Avenue to 17th Avenue.

(d) On 2nd Street East— 125 feet on both sides of 2nd Street East running Southerly from 11th Avenue to 17th Avenue.

(e) On 4th Street West—125 feet on both sides of 4th Street West running Southerly from 12th Avenue to the Elbow River.

(f) On 14th Street West—125 feet on both sides of 14th Street West running Southerly from 10th Avenue to 17th Avenue.

(g) On 17th Avenue West—on the South side from 1st Street West to 150 feet West of 14th Street West, 125 feet wide.

On the North side from 1st Street West to 7th Street West, the South half of blocks 119 and 120 in plan C. Sec. 15, and the South half of blocks 107, 108 and 109, Plan A.1, Sec. 16.

On the North side from 7th Street West to 150 feet West of 14th Street West, and to include the whole of blocks 116, 117, 118, 119, 120 and 121, Plan A.1, Sec. 16.

(h) All that portion of the Canadian Pacific Railway right of way between 6th Street East and 11th Street West.

SECOND CLASS FIRE LIMITS.

The Second Class Fire Limits shall comprise the following defined areas in the City of Calgary, that is to say; all that portion of the City bounded as follows:

(a) Commencing at a point 125 feet West of 4th Street West, running Easterly along 5th Avenue to 2nd Street West, thence Northerly along 2nd

Street West to 4th Avenue, thence Easterly along 4th Avenue to a point 125 feet West of Centre Street, thence Northerly to a point 125 feet West of Centre Street on 1st Avenue, thence Easterly on 1st Avenue to a point 125 feet East of Centre Street, thence Southerly to a point 125 feet East of Centre Street on 4th Avenue, thence Easterly along 4th Avenue to 1st Street East, thence Southerly along 1st Street East to 6th Avenue, thence Easterly along 6th Avenue to 2nd Street East, thence Southerly along Second Street East to 7th Avenue, thence Easterly along 7th Avenue to 6th Street East, thence Northerly along 6th Street East to the middle line of the Bow River, thence following the middle line of the Bow River in a Westerly direction to a point 125 feet West of 9th Street West, thence Southerly to a point 125 feet West of 9th Street West on 8th Avenue, thence Easterly along 8th Avenue to 8th Street West, thence Northerly along 8th Street West to 7th Avenue, thence Easterly along 7th Avenue to a point 125 feet West of 4th Street West, thence Northerly to the point of commencement.

(b) Commencing at a point 125 feet East of 2nd Street East running Easterly along 11th Avenue to 5th Street East, thence Southerly along 5th Street East to 12th Avenue, thence Westerly along 12th Avenue to 3rd Street East, thence Southerly along 3rd Street East to 17th Avenue, thence Westerly along 17th Avenue to a point 125 feet East of 2nd Street East, thence Northerly to the point of commencement.

(c) Commencing at a point 125 feet East of 1st Street West running Easterly along 13th Avenue to Centre Street, thence Northerly along Centre Street to a point half way between 12th and 11th Avenues, thence Easterly from this point, parallel with 12th Avenue, to a point 125 feet West of 2nd Street East, thence Southerly from this point to a point, on 17th Avenue, 125 feet West of 2nd Street East, thence Westerly along 17th Avenue to a point 125 feet East of 1st Street West, thence Northerly from this point to the point of commencement.

(d) Commencing at a point 125 feet East of 4th Street West, running Easterly along 13th Avenue to a point 125 feet West of 1st Street West, thence Southerly and parallel to 1st Street West to the Southern boundary of the North half of Block 119, thence Westerly along the Southern boundaries of the North halves of block 119 and 120 to a point 125 feet East of Fourth Street West, thence Northerly and parallel to 4th Street West, to the point of commencement.

(e) Commencing at a point 125 feet West of 11th Street West running Easterly along 13th Avenue to a point 125 feet East of 11th Street West, thence Southerly from this point to a point within 125 feet of 17th Avenue, thence Westerly and parallel to 17th Avenue to a point 125 feet West of 11th Street West, thence Northerly from this point to the point of commencement.

(f) Commencing at the East bank of the Elbow River on the lane between 8th and 9th Avenues East running Easterly on the lane between 8th and 9th Avenues East to the intersection of 15th Street East, thence Southerly to a lane between 9th and 10th Avenues, thence Westerly on lane to the East bank of the Elbow River, thence Northerly to the point of commencement.

(g) Two hundred and fifty feet on both sides of 4th Street East, commencing at the North end of the Langevin Bridge to the intersection of 1st Avenue North East.

(h) 125 feet of both sides of 10th Street North West commencing at the Bow River and running Northerly to the intersection of 5th Avenue North West.

(i) Commencing at the intersection of 9th Avenue and 14th Street West, thence Westerly along 9th Avenue to the Bow River, thence Easterly along the Bow River to 14th Street West, thence Southerly on 14th Street West to the point of commencement.

THIRD CLASS FIRE LIMITS.

All property within the City Limits and not included within the First or Second Class Fire Limits shall be known as the Third Class Fire Limits, which also include that portion of the Canadian Pacific Railway Right of Way and also the Canadian National Railway Right of Way within the corporate limits of the City and not included within the First and Second Class Fire Limits.

APPENDIX "B"**BUSINESS DISTRICTS.**

The following defined area of the City of Calgary shall be known as the Business District; that is to say: All the area lying within the following boundaries, viz:

Commencing at the intersection of 11th Street West, and 7th Avenue, and running on centre line of 7th Avenue Easterly to the intersection of centre line on 6th Street West and 7th Avenue, thence Northerly to intersection of centre line of 1st Avenue and 6th Street West, thence Easterly to South side of Bow River and following the Bow River to the intersection of 6th Street East and Fifth Avenue, thence Southerly to the intersection of 6th Street East and Elbow River, and following the Elbow River to the intersection of 17th Avenue and thence Westerly to the intersection of 4th Street West and 17th Avenue, thence Northerly to intersection of 12th Avenue, thence Westerly to intersection of 14th Street West, and thence Northerly along 14th Street West to intersection of 10th Avenue, thence Easterly along 10th Avenue to the intersection of 11th Street West, thence Northerly to point of commencement.

Commencing at the Elbow River, all that area lying within the following boundaries: bounded on the West and North by the Bow River, on the East by the road allowance between section 13 and 14, and bounded on the South by the C. & E. and C. P. R. railroad and following the C. P. R. railroad to point of commencement.

All lots fronting and abutting on 17th Avenue from 14th Street West, running Easterly to the Elbow River.

125 feet on both sides of 8th Street West, from 12th to 17th Avenues. All lots fronting and abutting on 12th Avenue from 4th Street West to 14th Street West.

125 feet on both sides of 4th Street West from 13th Avenue to Mission Bridge.

125 feet on both sides of 14th Street West from 10th Avenue to the intersection of 14th Street West and 34th Avenue.

All lots fronting and abutting on 2nd Street East from 17th Avenue to Victoria Bridge, thence continuing across the bridge and including all lots fronting and abutting on 2nd Street East to intersection of 26th Avenue East and 2nd Street East.

All lots fronting and abutting on 8th Street East, and Macleod Trail from 9th Avenue East to the intersection of Macleod Trail and 6th Street East.

All the Easterly half of Section 11.

125 feet on both sides of 4th Street N. E., running Northerly to the intersection of 16th Avenue N. E. and Edmonton Trail, running Westerly along 16th Avenue N. to the intersection of 16th Avenue and 10th Street N. W.,

thence Southerly all lots fronting and abutting along 10th Street N. W. to the Louise Bridge.

All lots fronting and abutting on Kensington Road from 10th Street N. W. running Westerly to the intersection of Kensington Road and 24th Street N. W.

All lots fronting and abutting on 2nd Avenue Sunnyside, from 10th Street N. W. running North East to the intersection of 2nd Avenue and 5A Street N. W.

All lots fronting and abutting on 10th Avenue from 14th Street W. to 20th Street W., also Block "G", Plan 7680 AN. Sec. 17, Sunalta.

All that portion known as the Industrial Site on the North side of the C.P.R. track to the South Bank of the Bow River, bounded on the East side by Mewata Park.

125 feet on both sides of 1st Avenue N. E., Bridgeland, from the intersection of 4th Street N. E. to the intersection of 12A Street and 1st Avenue N. E.

125 feet on both sides of 17th Avenue from 14th Street West to intersection of 17th Avenue and 24th Street West.

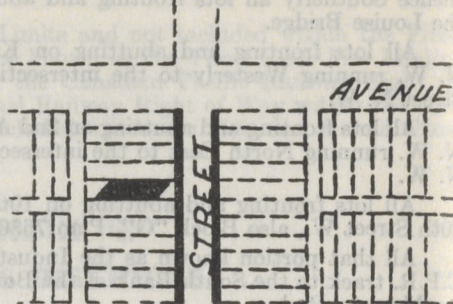
125 feet on both sides of 9th Street West from 7th Avenue to 4th Avenue.

RESIDENTIAL DISTRICTS.

All property within the City limits and not included in the above business districts shall be known as the residential district.

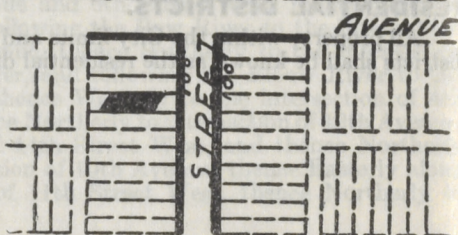
CASE 1.

Where the property objected to is at or near the middle of a block, right of objection is confined to frontage indicated in heavy black.



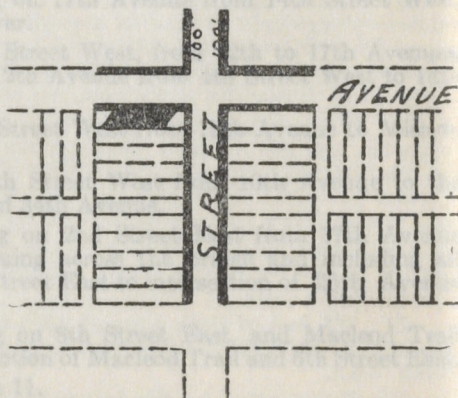
CASE 2.

Where the property objected to is within 100 feet from a corner, right of objection is confined to frontage indicated in heavy black.



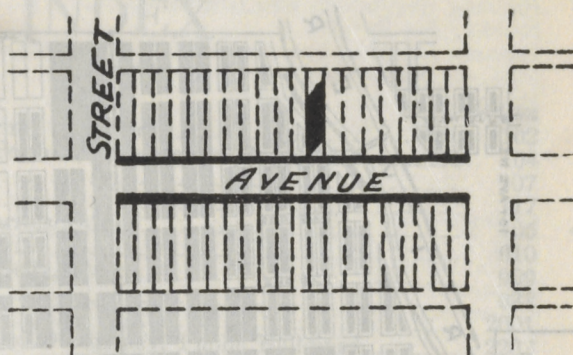
CASE 3.

Where the property objected to is on a corner, right of objection is confined to frontage indicated in heavy black.



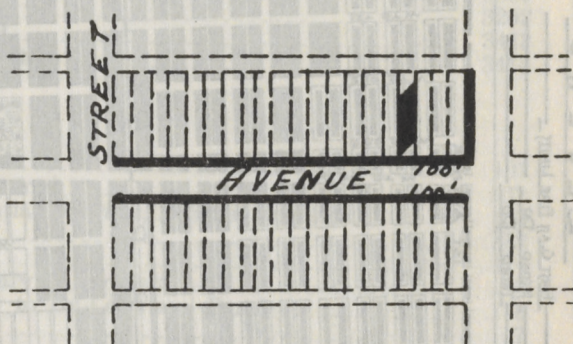
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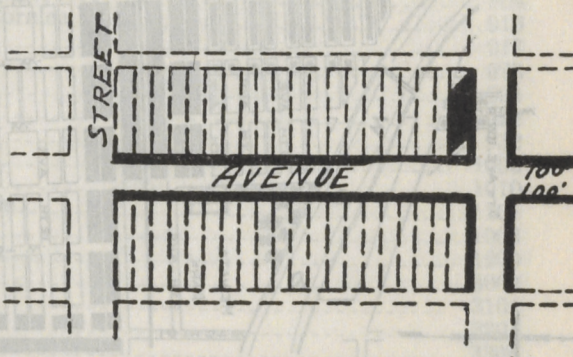
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

CASE 3.

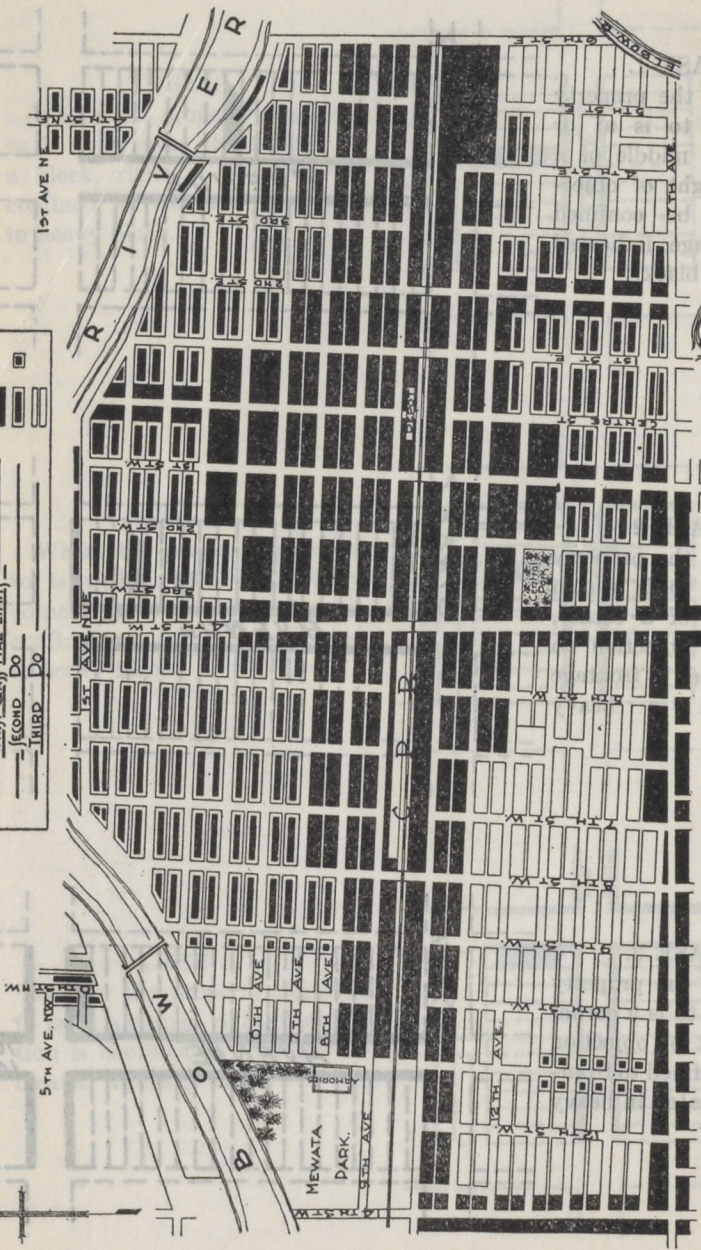
Where the property objected to is a corner lot, right of objection to be confined to frontage indicated in heavy black.



LEGEND

FIRST CLASS FIRE LIMITS - 
SECOND DO - 
THIRD DO - 



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BUILDERS' SECTION

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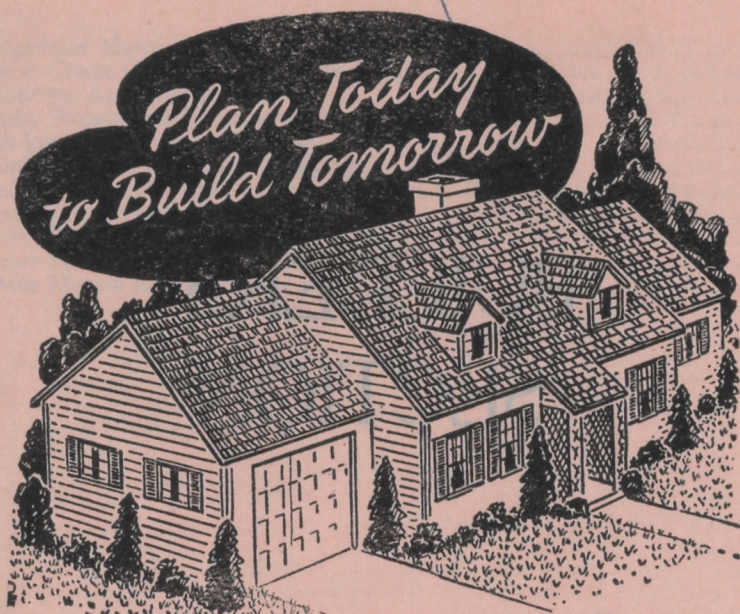
All revisions to date of
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NOTE: Don't forget to make your application for extension of Electric Light, Water and Sewer EARLY to avoid delay.

Amendments
to
Building By-law
No. 2666

1945

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M. DUTTON
President

W. BURNS
Vice-President & Managing Director

Amendments

TO

Building By-law No. 2666

July 1934 to October 1945

Section 102 (c)

By-law No. 2666 of the City of Calgary is hereby amended by adding the following as Sub-section "C" of Section 102 thereto:

"102 (c) Notwithstanding anything contained elsewhere in this By-law, the issue of a permit for the erection or moving of any building or construction may, with the approval of the City Commissioners, be refused by the Building Department if the proposed building or construction to be erected or building or construction to be moved differs radically as to type or method of construction from buildings generally considered permanent and/or where the exterior does not conform in reasonable degree with the surrounding buildings and/or where the appearance does not suggest permanent construction and without restricting the generality of the foregoing no person shall in any event be entitled to erect or construct upon, or move on any lot in the City of Calgary any railway car, caravan, box car, circus wagon, or any similar construction intended to be used or so that the same shall be used for business or dwelling house purposes.

From any refusal of a permit under this Section there shall be an appeal to the Council of the City of Calgary whose decision shall be final and in the event of such refusal and (in the case of appeal to the City Council) in the event of the confirmation of such refusal by the City Council no such building or construction shall be erected upon or moved on to any lot in the City of Calgary."

(By-law No. 2931 passed by Council July 9th, 1934.)

Section 102 (d)

By-law No. 2666 of the City of Calgary as amended is hereby further amended by adding the following as Section 102 (d) thereto:

"102 (d) Any person, firm or corporation either as owner or agent, who commences or proceeds with any of the work within the meaning of this Section without first obtaining a

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permit therefor, shall be deemed to be guilty of an infraction of this By-law and shall be liable on summary conviction to a minimum penalty of \$20.00, and a maximum penalty of \$100.00."

(By-law No. 2992, passed by Council May 27th, 1935.)

Section 201 (8)

By-law No. 2666 of the City of Calgary as amended is hereby further amended as to sub-section 8 of section 201 thereof by striking out the figure and word "6 feet" where they occur in the said sub-section 8 (definition of "basement") and substituting therefor the figure and word "5 feet".

(By-law No. 3491, passed by Council February 7th, 1944.)

Section 507

By-law No. 2666 of the City of Calgary is hereby amended by adding the following as Section 507 to Chapter 5 of the said By-law No. 2666:

"507. In the vicinity of the Calgary Municipal Airport situate on Section One (1), Township Twenty-five (25), Range One (1) West of the Fifth Meridian, in the Province of Alberta, the height of any building or structure shall be regulated and controlled by the Building Inspector in accordance with a set scale which co-relates the location and height of such structure with the elevation of the runways of the said Airport. The maximum allowable heights shall in all cases be governed by the zones, and grades within the said zones, as outlined on Plan B-LE-4 of the Department of Transport, Air Services Branch, Dominion of Canada, which said plan is on file at the office of the City Clerk of the City of Calgary."

(By-law No. 3194 passed by Council December 12th, 1938.)

Section 507 (Proviso)

By-law No. 2666 of the City of Calgary as amended by By-law No. 3194 is hereby further amended by adding the

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following Proviso to Section 507 of said By-law No. 2666:

"Provided, however, the restriction of maximum allowable heights of buildings referred to in this section shall not apply to any buildings erected by the Government of the Dominion of Canada as part of its Commonwealth Air Training Plan on—

All of Block A, Plan 7300 AJ, excepting thereout Lots 14, 15 and 16.

All of Block B, Plan 7300 AJ.

All of Block C, Plan 7300 AJ, excepting thereout Lots 13 and 14.

East half of Block 15, Plan 2226 AG.

All of Block 18, Plan 2226 AG.

All of Block 19, Plan 2226 AG.

All Lots A and B, Plan 6900 A.K.

All Block 20, Plan 4480 A.P.

All Block 21, Plan 4480 A.P. Calgary.

(By-law No. 3286 passed by Council August 19th, 1940.)

Section 803 (d), (Proviso)

By-law No. 2666 as amended is hereby further amended by adding the following at the end of sub-section (d) of Section 803 thereof:

"Provided, however, that no person hereafter shall use shavings as insulation without first obtaining a permit from the

Campbell & Hillier

PLUMBING & HEATING CONTRACTORS

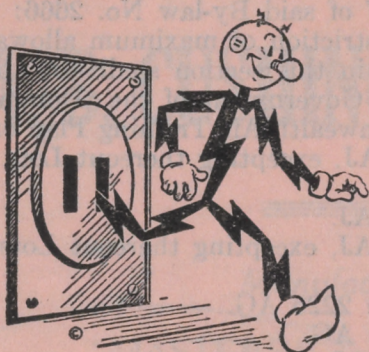
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Building and Wiring Inspectors of the City of Calgary, who shall be satisfied that all the necessary and proper precautions have been taken for the safe use of such insulation."

(By-law No. 3435, passed by Council December 21st, 1942.)

Section 2012 (a), (Proviso)

By-law No. 2666 of the City of Calgary as amended, is hereby further amended as follows:

As to subsection (a) of Section 2012 of said By-law No. 2666, by adding at the end thereof the following:

"The provisions of subsection (a) of Section 2012 shall not apply to Lots 21-23 in Block 2, according to a plan of part of the City of Calgary of record in the Land Titles Office for the South Alberta Land Registration District as Plan 4211U."

(By-law No. 3354A passed by Council August 4th, 1941.)

Section 3501, Appendix "A"

By-law No. 2666 is hereby amended as follows:

(a) By deleting the last four lines of Section 3501 FIRST CLASS FIRE LIMITS of the said By-law No. 2666, and substituting therefor the following:

"to 9th Avenue, thence Easterly along 9th Avenue to

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9th Street West, thence Northerly on 9th Street West to 8th Avenue, thence Easterly on 8th Avenue to 8th Street West, thence Northerly on 8th Street West to 7th Avenue, and thence Easterly along 7th Avenue to a point 125 feet West of 4th Street West, thence Northerly to the point of commencement."

(b) By adding the following at the end of subsection (a) **SECOND CLASS FIRE LIMITS** in Section 3501 thereof:

"commencing at a point on 8th Avenue 125 feet West of 9th Street West, thence Westerly along 8th Avenue to 11th Street West, thence Southerly to 9th Avenue, thence Easterly along 9th Avenue to 9th Street West, thence Northerly to 8th Avenue."

(By-law No. 3229 passed by Council September 18th, 1939.)

Section 4002 (b), (Proviso)

Subsection (b) of Section 4002 of By-law No. 2666 of the City of Calgary is hereby amended by adding the following words at the end of the said sub-section (b):

"Provided, however, that no building shall hereafter be erected or placed on the West side of 14th Street West between 16th and 17th Avenues which is not distant at least two feet from the nearest boundary of the said street."

(By-law No. 3061 passed by Council June 22nd, 1936.)

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Section 4002 (c), (Proviso)

By-law No. 2666 of the City of Calgary as amended, is hereby further amended as follows:

As to sub-section (c) of Section 4002 of said By-law No. 2666, by adding the following proviso to the end of the first paragraph thereof:

"Provided, however, in the case of Lot 10 in Block 16, Plan 3946N, Calgary, no building or any part thereof shall be erected within two (2!) feet of the avenue line."

(By-law No. 3332 passed by Council April 28th, 1941.)

Section 4002 (c), (Proviso)

That Subsection (c) of Section 4002 of By-law No. 2666 is hereby amended by adding to the first paragraph of Sub-section (c) the following proviso:

"Provided that in the case of the south twenty-five (25) feet of Lots One (1) to Four (4), in Block One (1), according a Plan of part of the City of Calgary of record in the Land Titles Office for the South Alberta Land Registration District as Plan 4714-N., any building erected thereon may be erected within a distance of five (5) feet from Fifteenth Avenue North West." (By-Law 3579, passed by Council, October 1st, 1945.)

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1. A distance of 20 ft. from front property line to front of porch or verandah, and a minimum of 10 per cent of frontage on each side, 25 ft. from front P.L. in Mount Royal and 30 ft. in Roxboro.
2. Every garage shall have a distance of 4 ft. from lane at rear of lot and 3 ft. from either property line, or if facing same way as residence it shall have a distance of 60 ft. from front property line. This applies to garages not attached to residences.
3. Every residence must have an 8 in. concrete foundation and forms must be inspected before concrete is poured. 2000 lbs. per square inch—28 days.
4. Every residence must have one chimney with 8 inch flue, either concrete blocks or brick, if brick is used it must have flue lining.
5. All fireplaces and vents must be inspected before being closed in.
6. All studding and ceiling joists must be 16 in. centres or if boarded both inside and out with 1 in. boards, 2 ft. centres will be allowed.
7. Every residence must have sewer and water connections and shall not be occupied until such connections have been made

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and water turned on. All sewer connections must be cast iron soil pipe.

8. A letter box for mail shall be provided in every residence.

9. A basement shall not be used for human habitation unless ceiling is 5 ft. above grade.

10. Before any building is commenced the person or persons desirous of erecting such building or some person on his behalf shall obtain from the City Engineer the proper grade of the adjoining street or avenue and the City Engineer shall upon request in writing therefor and within one week of the date of such request furnish to such person desiring to erect such building or to the person on his behalf making application the said grade of such street provided such grade can be reasonably ascertained.

11. Every permit shall automatically lapse if active work is not commenced within a period of three months from the date of its issue and reasonably continued; after such permit has lapsed a new permit shall be procured and fees as hereinafter provided shall be paid therefor before active work can be recommenced.

12. Any person, firm or corporation either as owner or agent, who commences or proceeds with any of the work within the meaning of this Section without first obtaining a permit therefor, shall be deemed to be guilty of an infraction of this By-law and shall be liable on summary conviction to a minimum penalty of \$20.00 and a maximum penalty of \$100.00.

Further information may be obtained from the Building Department.

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RE—GAS FIREPLACES

Attention is directed to the following sections of City of Calgary Building By-law No. 2666, relating to Gas Fireplaces, which shall be rigidly adhered to.

Section 2909 of the Building By-law of the City of Calgary reads as follows:

(d) Fireplaces, designed only for gas heaters, shall be fire-proofed with at least 2 inches of brick or concrete or other incombustible material and shall not be recessed more than 6 inches and shall have concrete hearth.

All false fireplaces and tile flues shall be left unconcealed until inspected and approved by the Building Inspector who shall make such requirements in regard to method of construction and workmanship as shall be necessary.

(g) It shall be unlawful for any gas company to install a gas service or continue a service in any building where gas is used as a fuel unless a certificate is obtained from the City Gas Inspector that the requirements of this By-law are complied with.

Section 2907 (e)—

Where light housekeeping gas ranges, gas fireplaces and heating stoves are installed, tile or other approved substance flues may be permitted. Size of the tile shall be adequate for satisfactory ventilation of appliances, but shall not be less than 12 sq. inches for ranges, and seven sq. inches for Radiants.

Separate flues must be provided for each appliance and carried through the roof; the tile shall be carried to a sufficient height to avoid down drafts and must be provided with a suitable cap.

A building permit shall be obtained before commencing to install Fireplace.

*See page 163 for plan for
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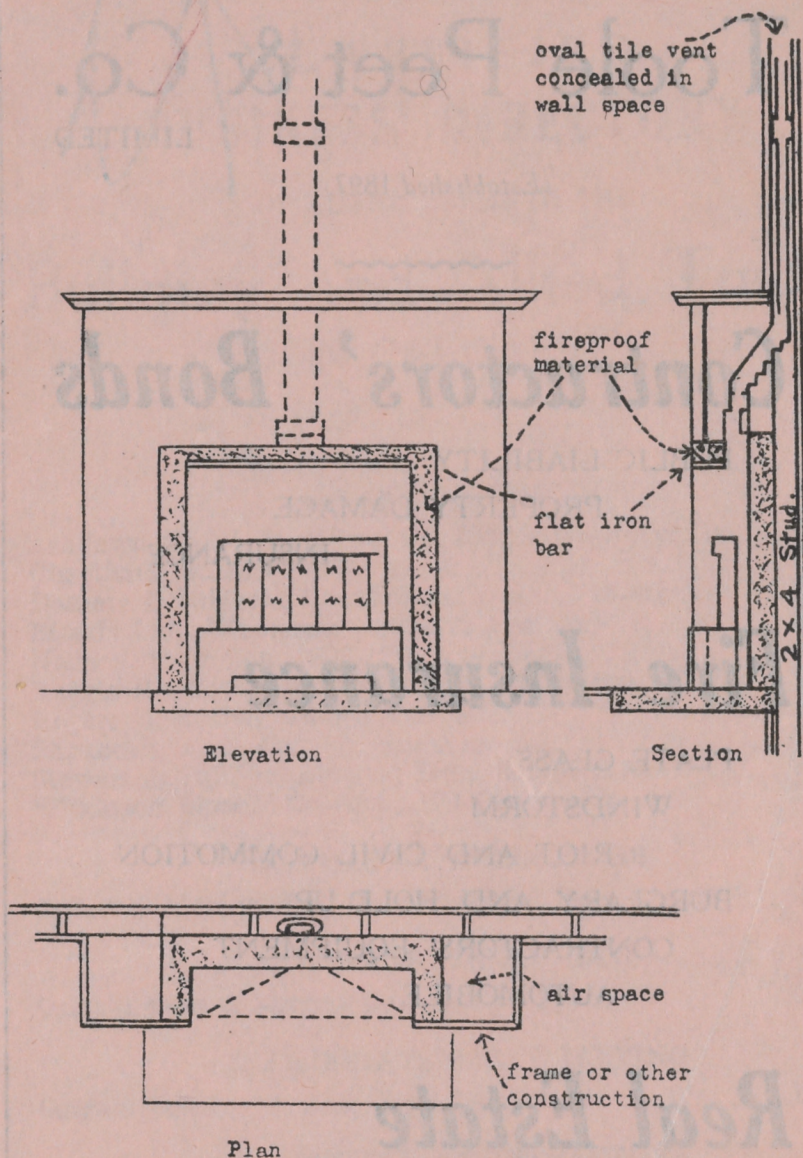
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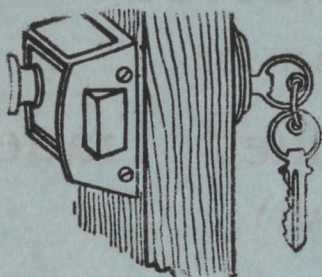
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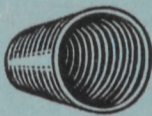
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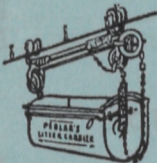
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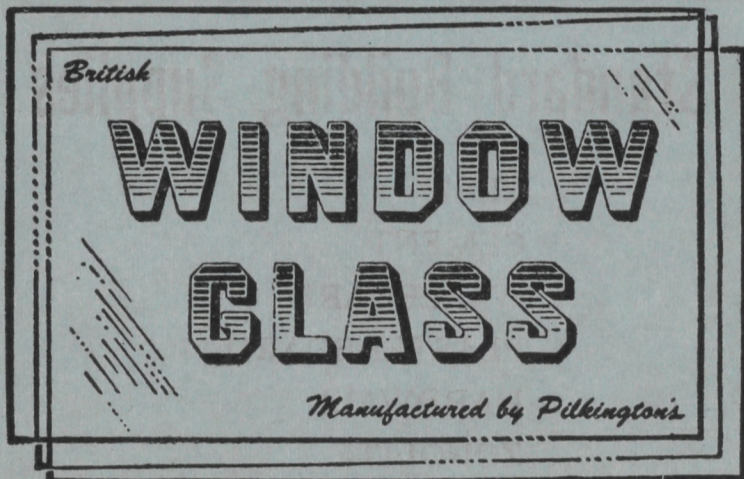
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